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WOODWORK DESIGN

BY

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E. H. A.

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PREFACE

THE purpose of this book is to put before teachers, amateurs and others interested in the craft of woodworking, the considerations which affect the design of such work as may be carried out by hand in hardwoods.

It is not claimed that such work can be produced without hard and earnest preparation in the early stages of the craftsman's experience, when skill in the use of tools must be acquired by steady practice—no craft worthy of the name can be practised unless complete mastery of the tools involved has first been obtained—but it is claimed that once this has been achieved the worker in wood need not halt there. Too often the tendency is to rest content with manipulative skill, which is wasted upon objects of little use or of no real value, or to begin with difficult work when lacking the groundwork necessary to cope with it successfully. The first case results in a waste of talent and time; the second in a waste of valuable timber.

The teacher, or the man who works at the craft for its own sake, is confronted always by the same problem immediately he has covered the elementary stages. The problem is what to make, and how to *design* it, not how to make it. There are a number of excellent books on the subject of woodwork construction, by reference to which a piece of work may be carried to a satisfactory completion. The difficulty arises when it is desired to make something different, or for a special purpose, as it is seldom the case that a "stock" design will fit in harmoniously with the furniture in use, or with its surroundings.

This natural desire to make something "original" is common to both the boy in his school workshop and to the craftsman in his home workshop; but it is surprising how often excellent workmanship, put into a piece of furniture, is spoiled completely by the ugliness or unsuitability of the design.

Woodwork is one of the "basic" crafts. It has tradition and historical background. It has definite "styles" of furniture and decoration, which have survived the test of centuries of use and experiment, and which have come to be accepted as the standard types for given surroundings. Thus we are able to study and choose between the Tudor style, the Queen Anne, the Chippendale, the Heppelwhite, the Sheraton, and so on to the Victorian, which tried to combine at one time all the possible exaggerations of the more ornate features of the previous styles.

Woodwork design is still emerging from the ugliness and confusion of the last century, as a glance at the average furniture catalogue will show, and it is only in comparatively recent times that a definite movement has been made towards dignity and restraint in this branch of design.

As is always the case when there is a general change of feeling with regard to creative work, the tendency is to swing too far in the opposite direction, and we see the effect of this in the production of eccentric and unbalanced designs put on the market as "modern" in style, whereas the best of the modern work is made subject to the strict laws of design, is restrained in feeling, and is anything but eccentric.

It is hoped that the portion of this book dealing with design, combined with the drawings and illustrations, may serve to assist in the choice and satisfactory completion of work which will be of permanent value to the user. The illustrations, with the exception of those for which acknowledgment is made, show work which has been carried out entirely by hand by students of Saint Luke's College, Exeter, and this work is the product of men having a very limited craft experience.

This suggests that, beneficial as it undoubtedly is, trade training and experience are not absolutely necessary for the production of good craft work. The advantage of trade training, however, which cannot be too highly emphasized, lies in the thorough grounding in the use of tools and processes which some sections of the woodworking trades still give, and in the care and upkeep of tools and equipment, without which good work is well-nigh impossible.

It is suggested that the illustrations should be used as a guide rather than as a means of reproduction of the designs shown, so that the main purpose of this book may be fulfilled. The constructional features have been kept, deliberately, as simple as possible without departing from fundamental requirements of strength.

E. H. A.

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WOODWORK DESIGN

MODERN AIMS AND TEACHING METHOD

THE value of Handwork as an instrument of education is now widely recognized, and in the adolescent stage of development some experience of one of the basic crafts is necessary to the achievement of the wide scope which a modern educational system imposes.

Woodwork provides a thorough training in those mental and physical processes which call for sustained effort and attention. It provokes thought and criticism, and tests in a practical manner the value of such thought. It develops the power of imagination and visualization; more particularly the creative and inventive faculties, along with the powers of artistic expression. It does all these things—but only on one condition: that craftsmanship be taught for its own sake and *not* merely as a narrow form of practical "education," or as a pleasant recreation for dullards.

If we adopt this point of view we are provided with an aim which is truly educational: to possess the power to appreciate beauty of line, form, proportion, colour and achievement in not only woodwork but in every form of craft, whether it be Architecture, Sculpture, Painting, Metalwork or any other of the creative forms of human activity. In short, just to appreciate fine craftsmanship and to endeavour to produce it.

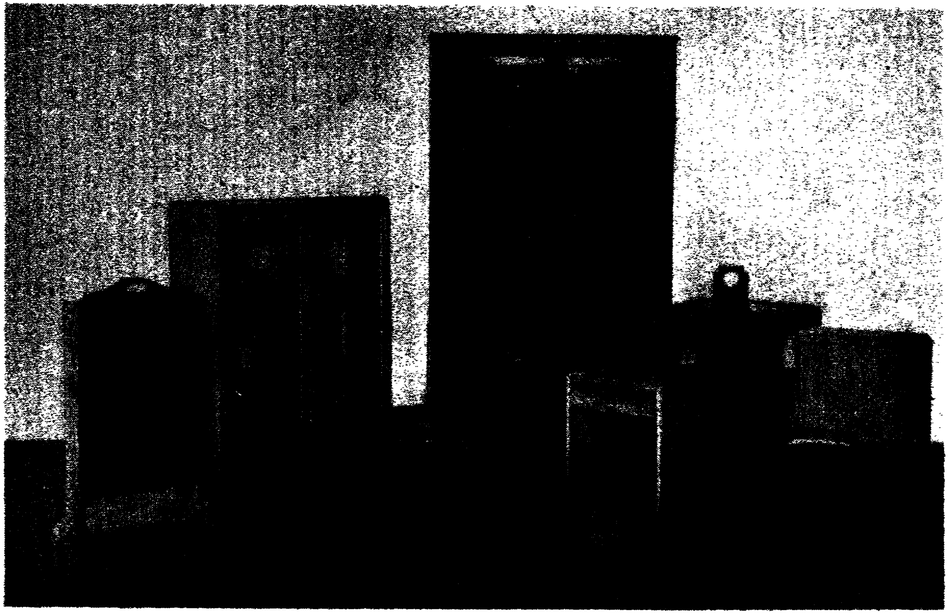
Whilst it is true that there are many who could never reach a high standard of craftsmanship, they may acquire to a high degree this power of appreciation, and may apply it in a variety of ways once school days are over.

The value of such training will be missed very largely, however, should the approach be made through the narrow lane of only *one* practical subject. Much of the ability to judge in matters of taste depends upon the recognition of principles which form the basis of an Art course, and, for this reason, training in craftwork should be accompanied at every step by a corresponding state of progress in Art studies. Drawing, and the elements of pictorial design such as Balance, Variety, Proportion, the value of "sympathetic" line direction, Contrast, Rhythm and Colour Harmony are directly related to design and the cultivation of taste in craftwork.

Both Woodwork and Drawing, as subjects, have become more creative in outlook and have forsaken the position, to which they were relegated for so long, of being merely recreational methods of training. They are one means of artistic expression.

Woodwork, in particular, has become an integral part of the Senior School curriculum wherever local conditions have made such a step possible, and the workshop is part of the school building—not an occasionally heard-of annexe in a corner of the playground. In many cases the scope of the work is widened to include Bookbinding and Metalwork, much useful apparatus being made to assist in the practice of the former craft. But apparatus making, for whatever purpose in connection with other subjects, takes its rightful place as a sideline of the woodwork course.

The making of furniture, and of other useful and decorative articles for the house, provides the widest field for general woodwork training. In the first place, the article to be made is interesting and attractive to the beginner who has completed the most elementary stages and who does not wish to make such specialized types of models as yachts or cold frames. It is not advisable that the work at this stage should be large or of complicated construction. There are many articles which permit of a high degree of workmanship and finish, but which are small and of simple design, and the illustrations show groups of such articles in the making of which the training may be thorough. They are inexpensive as regards material costs and within the powers of execution of a senior boy.

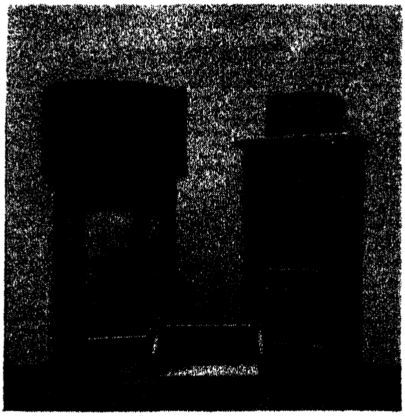


FURNITURE MADE IN A SENIOR SCHOOL WORKSHOP
The only veneered articles are the clock-case, in Australian Walnut and Zebrano, the music stool, in Light Oak and Macassar Ebony

More difficult and advanced designs may be included as individual skill develops, and it will be found that once the real joy of successful craftsmanship has been experienced it is seldom that the interest is lost, or the work allowed to become slovenly in execution. This alone is proof of the educational and cultural influences at work.

Finally, as woodwork has the advantages of combining all types of technical processes with the direct application of design and styles of surface finish, it forms the natural means of approach to the study of its own historical development, with the evolution of the house, the great "periods" of furniture design, interior decoration and building construction as interesting branches.

GROUP OF FINISHED MODELS
Stationery-Cabinet in Mahogany: doors veneered plain Lacewood. Stool in Oak. Handkerchief-box in Mahogany: veneered French Walnut and Satinwood. Medicine-Cabinet in Yellow Pine. Book-rack in Mahogany



By courtesy of Mr S. C. Mylam

GROUP OF FINISHED MODELS

The establishment of school workshops and handwork rooms on a wide scale, with the extension of existing facilities in other cases, is partly the result of a wider view being taken of the training necessary in woodwork. It has been felt for some considerable time that a set scheme of models, which are not in many cases useful but only serve as disciplinary exercises, fulfils but a partial aim, and it is more generally recognized that such exercises should form, at the most, stepping stones to real achievement. They are absolutely essential if any degree of good craftsmanship is to be attained, but they do not supply, in themselves, the satisfactory course.

The number of such exercises should be limited as far as possible, and arranged to give the maximum amount of manipulative training in the shortest time. For this purpose the common joints used in later work will give all the necessary practice, but rigid insistence should be made on their correct fit and finish. The making of really good dovetail-halving, bridle, mortise and tenon, through dovetail and lap-dovetail joints will ensure a wide series of operations requiring the utmost care in procedure to obtain good results.

The joints mastered, the next big problem is that of surface finish, to which sufficient attention is seldom given. A job should never be left with good jointwork and a torn-up or untrue surface, as all such flaws are very evident upon polishing. Thus an equal insistence should be placed upon the surface finish as upon the jointwork, in the case of the first model to follow the joint practice. If this is done, the habit will have been formed from the start of doing a job properly, and the succeeding work will be carried through with less waste of timber, less trouble to the teacher, and a higher standard of craftsmanship.

Stools, frames, mirrors, clock-cases, simple tables and cupboards are suitable articles for this stage of progress. Simple decorative processes may be introduced, such as gouge-cuts, simple veneering, inlaying and chamfer cutting; the process to be used in each case depending upon considerations mentioned elsewhere in this book.

It is not practicable to lay down any definite time limit for the completion of this stage, as conditions vary so much between individual schools and pupils. Some will hardly get beyond this stage at all, whilst others will be doing much more advanced work before their classmates have reached this same stage. For this reason individual work is to be encouraged, but, however long it takes, no pupil should be permitted to continue in a slovenly manner of working for the sake of "getting more work turned out." The value of the training is gauged, not by the amount of work done, but by its quality and the influence it has had upon the formation of characteristics already mentioned.

The successful pupil will attempt more advanced constructional work, not necessarily larger but requiring a higher standard of workmanship, finish and decoration. The difficulty of obtaining suitable material in sufficient quantities is the chief obstacle in the way of furniture making on a larger scale, and this difficulty will usually determine the extent to which the course will expand. The problem of suitable equipment and the provision of a few special tools must also be met, as a plough plane, rebate planes, carving gouges, and sash cramps will be wanted.

Power saws and planers are being introduced into many workshops and, whilst there is no reasonable objection to their use for the saving of a great deal of hard donkey-work, they should never be allowed entirely to supplant the hand tools. A boy can never become a craftsman in wood if he cannot plane up a true surface or saw to a given line: these are fundamental craft operations.

In actual workshop practice the class is taken as a whole at first, if the number does not exceed 20; or in groups, as may be convenient. This method permits of demonstrations being given whilst the earliest stages are in progress, and is the most satisfactory for the teaching of joint practice. Some instruction in drawing may be given at this stage, and various points which arise in connection with the use, care and construction of tools may be dealt with as they occur naturally. The main drawback of this system is the irritation which is caused in the minds of the keen pupils by the necessary interruptions of the work, but a better method has still to be found. For this reason, the calling of a group round a bench should be resorted to as seldom as possible. It will only be necessary very occasionally once the disciplinary exercises are completed, for the explanation of some point in general design, or the demonstration of a new process or tool operation.

When the constructional models are begun the work will be individual. Communal work may be carried out with some success by small groups of one or two pupils, but more satisfaction is obtained and more progress made by a boy who is intent upon his own personal achievement.

There is less insistence than formerly upon the practice of preparing elaborate and carefully-finished technical drawings before the commencement of the benchwork. It is realized that a pupil can work equally well from a correctly dimensioned scale sketch, or even from "rods" set out by himself with the aid of the teacher, and that, whereas the amount of time given to actual craftwork cannot be too great, he will not get the same value from the time allotted to technical drawing. It is sufficient, therefore, to allow the pupil to use either of these methods, or both, and to encourage him to make hand sketches on a larger scale of his ideas upon good design, proportion and decoration. Notes and sketches should be made of good antique and modern furniture whenever there are local facilities for viewing such work. It is a great help, also, if photographs and other reproductions of good designs are available for study in the workshop, either in wall-cases or in folios. Many good examples can be obtained from some of the monthly magazines and the illustrated papers.

NOTE.—A "rod" is a length of thin wood about 6 in. to 8 in. in width, on the planed face of which the actual measurements of the various members of the job are sent out in the form of pencilled lines showing length, width and thickness in each case, the two latter dimensions by sectional views as a rule, so that it resembles the ordinary technical drawing broken up into pieces to show each member once. One such setting out serves, of course, for multiple members, such as legs of identical form. The parts are fitted in as convenient, when the actual dimensions may be marked directly on to the timber being worked. Once the rod has been checked it has the advantages of being quick and of avoiding errors in measurement. The only objections that can be raised to its use are that it is a trade method; that there is usually some difficulty in getting the necessary wood, and that pupils are confused by the unusual setting-out; but to counterbalance these there is the undoubted saving of time effected by occasionally dispensing with an elaborate and unnecessary drawing.

THE NATURE OF THE MATERIAL, AND ITS EFFECT UPON DESIGN AND FINISH

THE structure of timber compels the adoption of the straight line as the basis of design, if the maximum strength of the material is to be preserved. The cell structure and grain of the wood ensures this strength in the board as it is cut from the log, providing that the main lines of the job run parallel with it, so that the design composed of straight lines and plane areas is the most suitable for woodwork.

Curved work may be carried out providing allowance be made for loss of strength due to cutting across the fibres, but the practice of piercing and fretting bracket supports, or carcase sides and panels, leads to a considerable weakening of the member concerned. The unsupported parts left by the fretting, across the grain, are always in danger of being broken away by a knock and, thus, are of bad design. The adoption of any style more suited to another material, such as sheet metal or wrought iron, should be avoided.

It is realized at the present day that the chief beauty of a hardwood lies in its surface texture, grain, and "figure." This requires, for its full appreciation, a plain, unbroken surface which, whilst preserving the maximum of strength and showing the texture to the best advantage, acts as an effective foil to the parallel lines of framing and mouldings. The several varieties of oak now on the market, of which "Japanese" and "Austrian" are the "mildest" and pleasantest for general working, lend themselves very readily to this form of treatment. The beautiful "French" walnut, with its strongly decorative markings, is naturally suited to modern work. Mahogany, on the other hand, whilst possessing a silky texture, is unpleasant in colour unless stained and polished, but much work of fine appearance may be done in this wood without a great deal of ornamentation.

Oak may be carved in low relief on panels and friezes with good effect. It should be remembered, however, that to obtain the full decorative value of such treatment there should be a proportionate amount of plain surface to act as a foil or "mount." It is the most suitable form of decoration where an impression of strength is to be retained by the whole design, and thus oak is the obvious choice. At the same time, the artistic effect of a band, frieze or panel of low-relief work, with the natural oak ground showing the light and shade as a delicate pattern, can hardly be exceeded.

Mahogany is more naturally suited to the formal treatment necessitated by the use of veneer decorations and inlay. It has not the sturdy texture, pleasant natural colouring and appearance of oak, apart from the difference of association which has always kept oak in the forefront as the "national" timber, characteristic in strength and solidity, and mahogany as the most suitable material for the styles of Chippendale, Heppelwhite, the brothers Adam and Sheraton. It must be remembered, also, that much of the work of these designers was carried out in walnut, or satinwood, as well as in mahogany.

Walnut, which preceded mahogany in general use, has much in common with the latter in its advantages as a wood for highly decorative work, but is not so durable or so free from the attacks of wood-boring insects. Furthermore, it is very liable to warping and splitting, a weakness which necessitates the most thorough seasoning. It is readily adapted to modern styles as it has a silky texture, often a fine "figure," and a pleasant natural colouring; characteristics which have brought it once again to the forefront.

The "Spanish" chestnut is a very pleasant wood in which to work, and resembles oak very closely at times. If differs from oak in not having the silvery "figure," the medullary rays not being conspicuous. For large cabinets and individual pieces of furniture it is a very good timber, mild in working, finishing as a pleasant grey, and taking a dull polish with an excellent surface quality.

The question of surface finish is one which should be decided in accordance with the natural qualities of the wood, and it is realized at the present day, for example, that a high surface polish is not the best finish for oak, whether light or dark in tone. The finer grain and necessary staining of mahogany render it especially suited to such a finish as the glassy surface of french polish. To obtain such a high polish it is essential that the grain pores should be "filled" or stopped to give a perfectly smooth surface and prevent the polish sinking in, and such a surface is out of keeping with the normal appearance of oak.

The surface of both oak and mahogany is very liable to be torn up in places by partially blunt tools, and whether the wood is to be left unstained and unfilled, or stained and filled, before polishing, it is essential that these "tears" be removed, as otherwise they appear as disfiguring blotches on the finished work.

A good wax polish is one of the best finishes for oak, and it may be applied direct to the surface after this has been thoroughly cleaned up. Its chief advantage as a finish is its durability, hardness and resistance to the effects of ordinary heat, whilst with regular if infrequent polishing it will eventually produce a splendid surface. It will, however, show water spots badly unless care is taken to remove them at once.

A beautiful finish which will give oak an excellent quiet polish eventually, with a fine colour, is obtained by using raw linseed oil, rubbed well into the surface, and polished with a soft rag. Regular and thorough polishing will give the best results. The advantage of this method of treatment is that, in addition to giving the above qualities to the surface, the latter will withstand the effects of direct contact with either hot dishes or water, whereas any article which has been either french polished or "brush" polished will have its surface blistered and permanently disfigured by such contact.

The characteristic grain and structure of oak demand a form of decorative treatment, where such is desirable, which will not disguise in any way the normal appearance of the wood. Therefore, such ornamentation as is used should be *of* the job itself, and not applied to it, if possible. For this reason chamfers, which serve to decorate the constructional lines whilst accenting and supporting them, are most satisfactory, and they do not interfere with the contrast needed between structural members and panels, or other contained areas. Moulding lines are equally effective if both strong and simple, as are carved areas which are part of the job itself, and not an addition to it.

Mahogany, with its finer grain and less striking "figure," is most suitably ornamented by veneers or inlays. These, whilst definitely an addition to the job itself, are not out of place, being of the same basic material and possessing the same characteristics.

On the other hand, the necessity for the staining and polishing of this wood makes carving an unsuitable mode of treatment, quite apart from the reasons connected with its structure. Chamfers may be used when the lines are simple, but not with the same telling effect as in the case of oak.

Most "fancy" woods obtainable as veneers, such as rosewood, coromandel, satinwood, lacewood, and, of course, "fiddle-back" mahogany, will harmonize well with the rich colour of the polished mahogany, and contrast may be had by the inclusion of sycamore, holly or mother-of-pearl, restricted to small areas and lines for the best effect. Stringings, lines, and cross-bandings are all used in conjunction with veneers and inlays for panel decoration, doors and drawer-fronts.

Walnut is suited to both styles of ornamentation. It has a natural beauty of surface, grain and colour, which shows to the best advantage in simple lines and unbroken surfaces. Chamfers are quite successful on a walnut job, for it is a fact, often lost sight of, that chamfering depends for its effect upon the play of light and shade on inclined faces, thus being most applicable to lighter-coloured woods. Yet when it is veneered with an harmoniously coloured wood and given a high polish, walnut as a ground is equally pleasing in effect.

Veneer designs should be formal and geometric in style when used for panels, drawer-fronts, etc., to be in keeping with the structural lines of the whole piece of work, and to conform to the demands of the grain direction of the veneer itself. Decorative panels for special purposes may be carried out in "Intarsia": a very effective mode of treatment, but one which is somewhat foreign to the nature of the material. This work consists of the building up of a wood panel of irregular shapes, sawn into one another to ensure a fit, using different woods to represent in a decorative manner a landscape or other subject. The various natural grains and colourings are utilized to suggest form and texture of the included details such as trees, clouds, water, etc. As a "decoration of wood by wood," with careful and tasteful application, this work is of great decorative value.

DESIGN

The elements and laws of Design are as indispensable in their application to a piece of constructional work in three dimensions as they are to a two-dimensional pictorial composition. Whereas in the picture the values of line, by direction and quality, and the values of mass, by tone and colour, have to *represent* three-dimensional form, the piece of furniture depends almost wholly upon the careful arrangement of its *actual* lines of construction, with their supporting areas, for its artistic appeal. The complement of the pictorial colour scheme is found in the harmony produced by the natural colouring of a timber such as oak or walnut, or the rich hue of well-finished mahogany, contrasted with other timbers and fancy woods such as holly, ebony, and rosewood, or with suitable inlays or veneers.

In the nineteenth century the furniture trade passed through a period of chaos in design. Partly owing to the introduction of machinery for the rapid duplication of parts, with such devices as the moulding mill-table with its rapidly revolving spindle and cutter—enabling mouldings to be cut accurately and quickly on curved edges—there was a general over-elaboration of ornament to the detriment of sound construction. Architectural features such as the pediment, fluted pilaster and column, ornate cornice and multiple moulding lines were confused with "fancy" outlines, brackets, "frets" and "planted" ornaments which covered almost the entire surface of the wood.

Apart from the prevailing ugliness which these additions gave to the appearance of massive pieces of work such as the sideboards of the period, the multiplicity of details appreciably weakened the construction. Such a pitch of exaggeration was reached that a revulsion of feeling took place and it began to be realized generally that it was useless to force even hardwood to ape the characteristics of stone and metal.

The chief consideration which had been ignored was the grain of the wood: the fundamental characteristic of structure, and one which demanded a more restrained form of treatment. The second consideration was the peculiar and individual beauty of surface texture, "figure," and colour possessed by oak and walnut, and by finished mahogany.

These attributes had been lost in the prevalence of ornamentation, and totally ignored in much of the work. This was more especially the case with oak, which had been stained nearly black; polished and carved upon every possible occasion.

Towards the end of the last century, however, a number of earnest and excellent craftsmen were producing work which, whilst it incorporated the best elements of the older work as regards utility, proportion and sound construction, gave full scope to the natural beauty of the wood as shown by the plain surface. The work of the late E.W. Gimson, who is now regarded as having been one of the great English designers, typifies the aims of this group.

Construction came first, defining clearly the lines upon which the work was to develop. Ornament followed these lines instead of, as before, disguising or attempting to disguise them, and was placed carefully to heighten the general effect without detracting in any way from the natural qualities of the wood. In short, an effort was made to return to the ideal of fine craftsmanship, design and material which had inspired the earlier master-craftsmen.

As was natural in the circumstances, with a somewhat limited output, the newer work was expensive and its field of influence restricted. But it had its effect, and at the present day one may buy a suite of furniture at a very reasonable price, designed very fairly along the same lines and possessing good proportion with simple lines. In fact, "light oak," as it is now termed, appeals to all classes, and the heavy, ornate pieces of an earlier day have almost disappeared from the showroom.

The illustrations which follow this chapter show the extent to which thought and good taste have broken away from the trammels of convention, so binding to the designer who studies only the styles of the famous periods in the development of English furniture.

The same tendency has made itself felt in the school workshop. Discipline in tool-work and processes remains, and must always form the work-basis of any major craft, but does not form the complete aim. The beginner is taught to regard the disciplinary part of the course as the necessary preliminary to the making of something both artistic and useful, and with that in mind he works steadily and patiently to achieve skill. He is taught to appreciate the differences existing between the different styles of work; between the good and the bad; to form his own opinions and produce his own designs, and, what is more important, to carry them out by hand. Thus his knowledge of construction is tested from the start, when he spends the early training period in making the joints he will need to use later, whilst he is forming his taste and studying available forms of ornament.

He is learning, quickly, the possibilities and limitations of the material, and gaining in appreciation of its inherent decorative values. He is learning that an object of utility need not be ugly, and that to be artistic it need not be covered with superfluous ornament or be lacking in utility.

The value of work carried out in this way is the training which it gives in the fundamentals of woodwork design. In modern work these may be stated as embracing in the one piece—

(*a*) The utility of the finished product.

(*b*) Sound construction.

(*c*) An appreciation of the value of the plain surface.

(*d*) An appreciation of the value of the straight line and simple curve in design.

(*e*) Good proportion between the parts.

(*f*) Ornament which harmonizes with the lines of construction.

In considering (*a*) we have to recognize the fact that in all kinds of craftwork, whether in stone, timber, metal or leather, the necessities of life determined the original form of the work.

Stone and timber for shelter, furniture and implements: metal for weapons and tools: leather for saddlery, harness, etc. In furniture the need for storage suggested the box-like chest, made of oak in England as it was the handiest and strongest material, and a number of fine examples of these are still to be seen in many parts of the country. The need for raising the bottom of such a chest from the floor, probably to prevent dampness and rotting, suggested the use of lengthened corner posts to form short legs; a tremendous advance from the original "dug-out" form hollowed from a log. The table has not changed in its essentials: a plane surface, raised to a convenient height from the ground. And so with all the accepted forms of furniture, evolved through centuries of use and experience from a simple need.

Thus, in direct contrast to the ineffectiveness of much so-called "art" furniture, a table should have legs sufficiently strong to support both itself and any reasonable load it may have to carry. A chair should be sat upon without fear. A cupboard should be capable of use for storage purposes. A bracket should adequately support its shelf.

This is the point from which the designer should start. And though the remark seems trite there still remains to be seen a large body of work, in everyday use, which has been designed to to look "ornamental" rather than to be useful, of which the chair-back that must not be leaned against and the highly decorated sideboard, the brackets on which are unreliable, are typical examples. The fact is that if a piece of work be well made for any particular purpose it is bound to be to some extent satisfying in appearance.

As the essential form developed and became perfected by centuries of use, so the construction improved. Experience and use, again, determined the type of joint required, and eventually found the design for each which should give the maximum of strength with the greatest neatness and saving of timber. Clumsiness was the feature, naturally, of much of the early work, doubtless due to a desire for strength, whereas the strength possessed by the fragile designs of Heppelwhite, due to good jointing, was amazing.

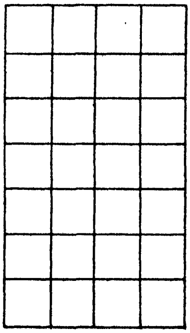
The advent of machinery in mass-production work has reduced, very largely, the number of craftsmen who can make a really good joint in a short time, but for those who wish to practise the craft of woodworking the power to make a good joint is the first essential. The skill and confidence necessary to do this are only acquired by an amount of practice and care which ensures sufficient ability to handle the rest of the work. Thus the amateur who is desirous of obtaining good results should not be too eager to tackle something difficult, however attractive, until he has full command of the necessary tool operations and can produce a really good specimen of every joint likely to be required.

Equally important is the finishing of the surfaces. Should ridges or unevennesses be left on the surfaces of the job, or should they be "torn" up by a blunt plane-iron, such flaws will only be intensified by polishing. The preparation of the wood and the removal of all such flaws is no mean test of patience and skill, as it requires keen-edged tools and careful working, whilst if it is scamped the whole piece of work may be rendered nearly worthless from the craftsman's point of view, in spite of good jointwork.

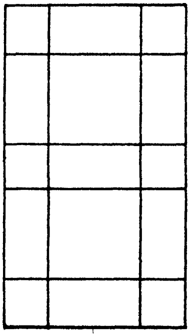
Assuming that the worker's skill is adequate for the carrying out of the construction there still remain the difficulties of design. Fine craftsmanship is often to be seen wasted upon a design which is poor to the extent of being positively ugly. In many cases either the relative proportions of the parts are all wrong or the whole is overloaded with ornament; with "planted" mouldings, carving or veneer. Carving is the chief offender in most examples, every part of the framing, panelling and top surface being covered with high-relief work, holding the dust and obscuring the main lines.

"Good proportion" is, perhaps, the most convenient term by which a general summing up of a design may be made, yet the term itself is one which is most difficult to define. To the average person it conveys the meaning of a satisfactory appearance of the work as a whole, and of its parts in their relationship one to the other, and to the whole. Construction has a definite bearing upon this according to the degree in which, apart from its artistic appearance, the work has the qualities of strength and suitability for its purpose. This is particularly the case with the modern styles which rely for their effect upon simplicity of line, and plain surfaces, and not upon added ornament.

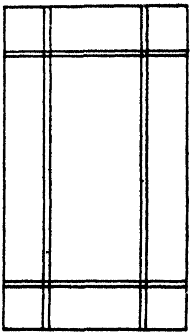
The necessity for the right proportioning of parts to each other and to the whole applies to all forms of Art and Applied Art: to Architecture, Painting—in the design, colour scheme, framing and mounting of the picture—and especially to interior decoration and furnishings. In the case of furniture, the designer is concerned mainly with the rectangle as the basic form, due to the characteristics of the material. The lines of practically every piece are contained within a rectangle, subdivided into smaller rectangles, so that the proportioning of these groups becomes of the first importance.



a



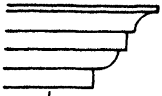
b

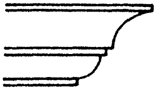


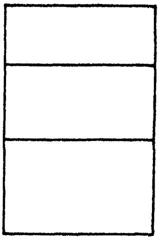
c

Monotony and Lack of Interest. If we begin with a rectangle, and divide it up as shown at (*a*), we get the effect of a barred window. This is ugly and uninteresting because of the sense of monotony given by repeated parallel lines at regular intervals. If we remove the centre lines, as at (*b*), we have a much more interesting and pleasant arrangement due to the variety of distance separating the lines. At the same time there is orderly arrangement and regular subdivision of the rectangle.

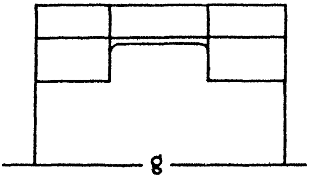
With the addition of other lines the interest is heightened still further, (*c*), and, if the rectangle be placed with the long side in a vertical position, the lines might represent the "barring" of a glazed bookcase door.

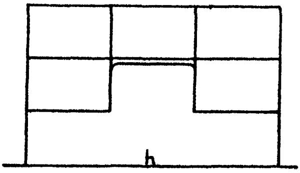

d


e


f

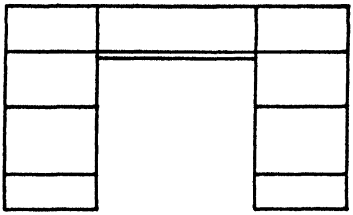
Mouldings need the application of the same principle. Moulding lines such as (*d*) would be extremely ugly and poor in design. When altered as at (*e*) by varying the distances between the lines throwing the shadows, the moulding becomes agreeable to the eye.


g

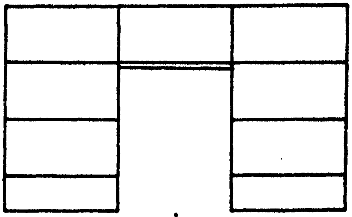

h

These observations lead us to the consideration of associated groups of rectangles such as may contain the main lines of a piece of furniture. One of the simplest arrangements is the bookcase, (*f*) in which the three rectangles are graded in height, not only because of the desire to put the larger books on the bottom shelf, but to avoid the appearance that the lowest rectangle is less in depth than the other two, which is the result of making all three alike. In any case monotony would be apparent.

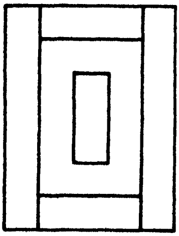
A dressing-table shows a group of rectangles, actual or suggested, (*g*), formed by the crossing of the main vertical and horizontal lines of construction. Should monotony by subdivision of the whole as at (*h*) be allowed, the result will be far less pleasing to the eye.



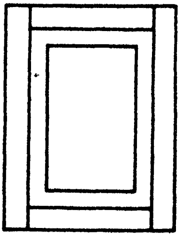
i



j



k.

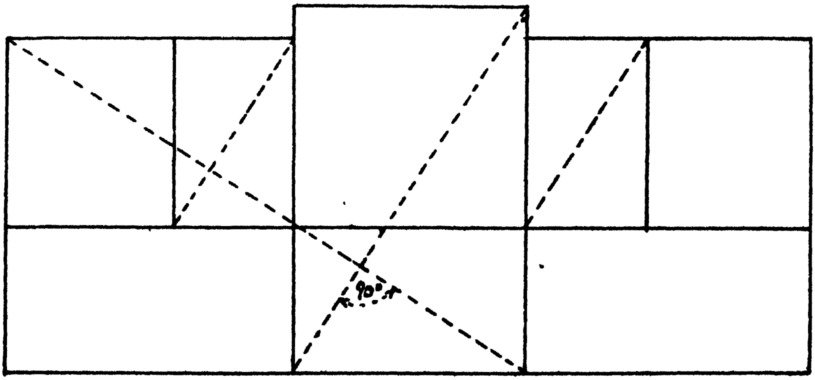


l

A writing-table provides a similar example. In (*i*), variety is obtained easily and conveniently, giving a table of pleasant proportions. In (*j*), the repetition of equal spacing between vertical and horizontal lines makes the whole design uninteresting.

The greatest care is needed in the planning of door frames for bookcases and cabinets. The widths of stiles and rails should be suited to the style of the work, and to the adjacent panel areas. Raised, sunk or bevelled panels all need individual consideration. In (*k*) the frame width is equal to the marginal width of the panel, and also to the width of the raised portion, giving an appearance much less satisfactory than that of (*l*), in which variety is made between the widths. Beads, chamfers, and "planted" mouldings are of great assistance in this as they provide groups of parallel lines.

The rectangle being so clearly defined in furniture, it is necessary to consider what may be recognized as the best proportion between the length of sides for general purposes. It has been found that a proportion of 1 to 1·6, (approx.), between the adjacent sides gives the most pleasing rectangular form, and Mr. C. C. Pearce, in his book *Composition* (Batsford), deals thoroughly with the origins and applications of the principle. Another rough approximation is the proportion of "three by five" frequently used in a workshop.



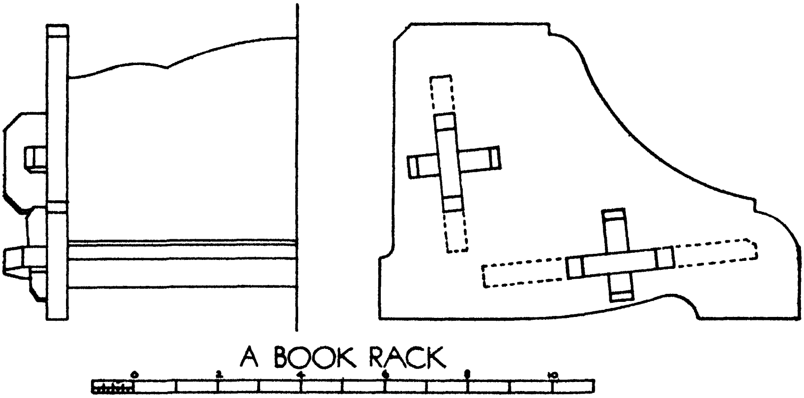
m.

If an attempt be made to get a satisfying proportion without calculation, so that the critical faculties alone are relied upon, the division of a line by eye and the drawing of a rectangle will be found to give results practically identical with those obtained by the other method. The ratio should be observed throughout the whole design as far as possible. Thus, should it be desired to place three or more rectangles together in any design, (*m*), they should be similarly proportioned, the proportions being obtained as shown.

Whilst any such rigid ruling must be departed from in many incidental parts of furniture design to meet the demands of constructional necessity, or utility, the use of the ratio described, for groups of similarly proportioned rectangles, will give an harmonious effect to the whole.

BOOKSHELVES

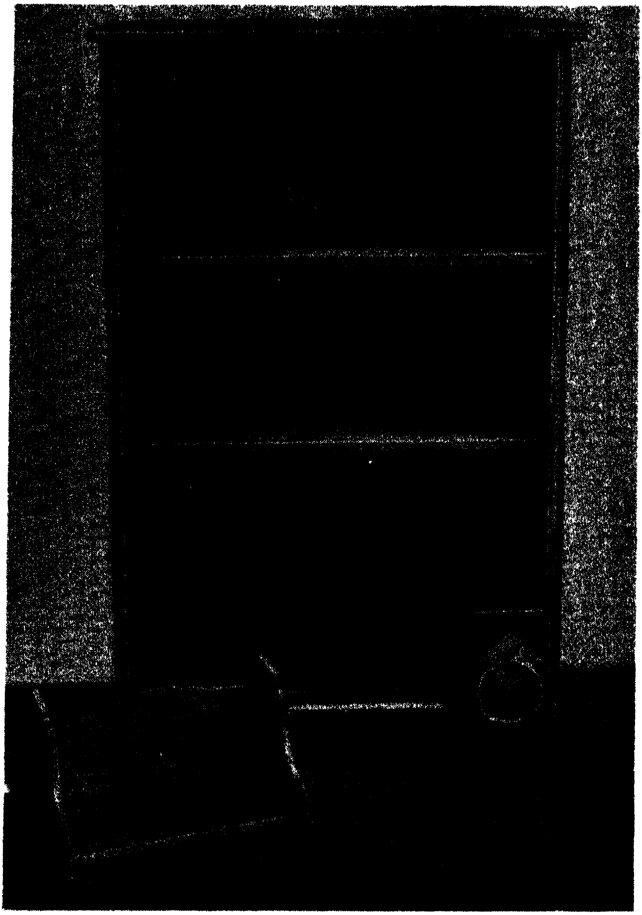
The oak bookshelves shown form an early and straightforward exercise which, although simple in construction, is of pleasing appearance. The under or carcase top is lap-dovetailed to the sides, with the bottom.



A BOOK RACK

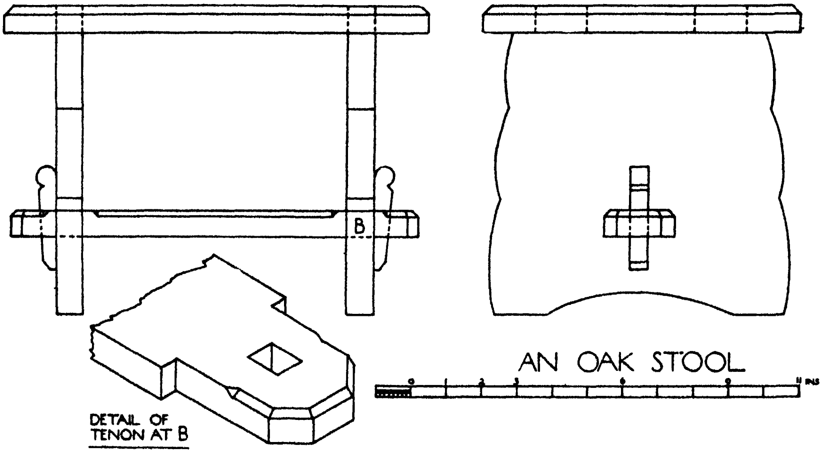
A small plinth is made and screwed to the bottom.

The other shelves may be housed in, or made adjustable. In the former case a panelled back looks best.



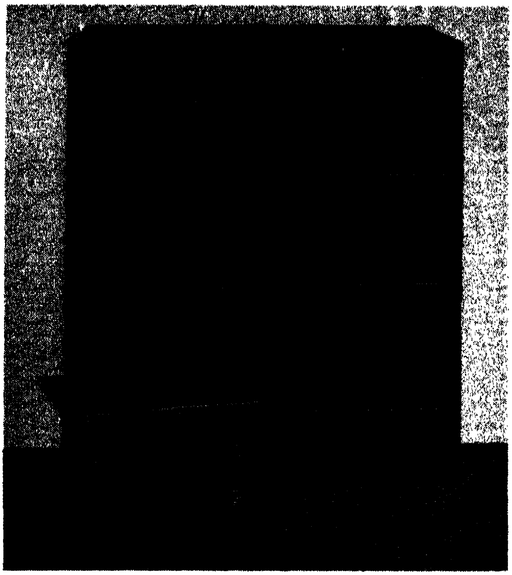
A Stool

The uprights are tenoned right through the top and wedged, whilst the tie-rail is tenoned through the uprights; the tenon being brought through, as shown, and mortised to take a dry wedge. These details of construction form additional features of decoration to the shaped edges.



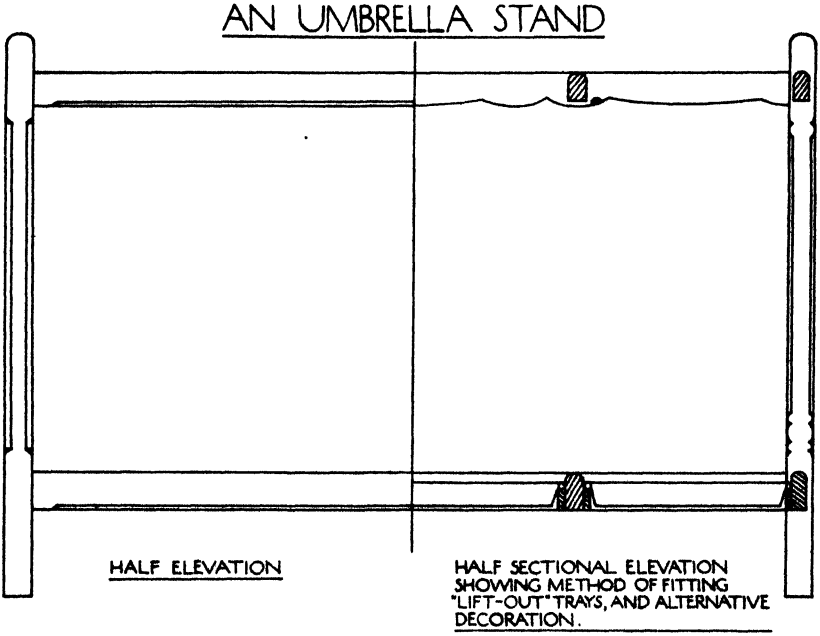
AN OAK STOOL

Although very simple in appearance this exercise gives very exacting training in mortising and tenoning, and looks well in a room furnished with other light oak pieces.



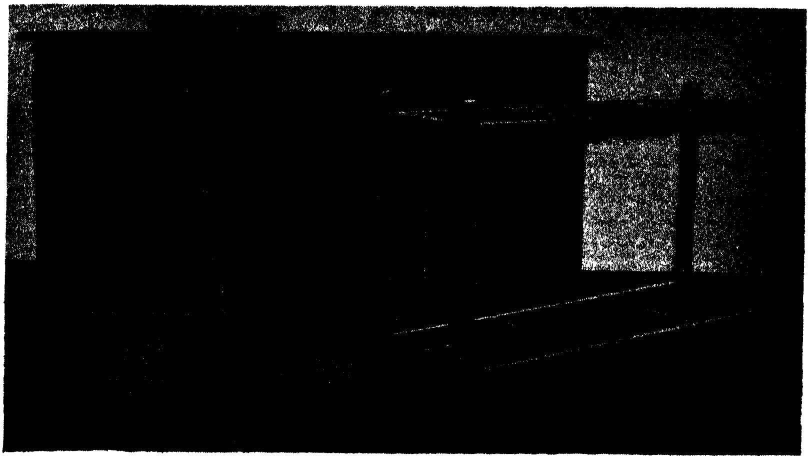
UMBRELLA STAND

Good early practice is provided by this job in the marking out and cutting of mortises and shouldered tenons. Clean chisel work is necessary, also, for the finishing of the long stopped chamfers which decorate the legs.


AN UMBRELLA STAND
HALF ELEVATION
HALF SECTIONAL ELEVATION SHOWING METHOD OF FITTING "LIFT-OUT" TRAYS, AND ALTERNATIVE DECORATION.

The trays may easily be made of sheet metal, painted or japanned, and fitted so as to be movable.

The upper edges of all the rails are slightly curved in cross-section, and a pleasing effect is obtained if all the short cross-rails are cut to a long gradual curve on the top edge, instead of being left straight.

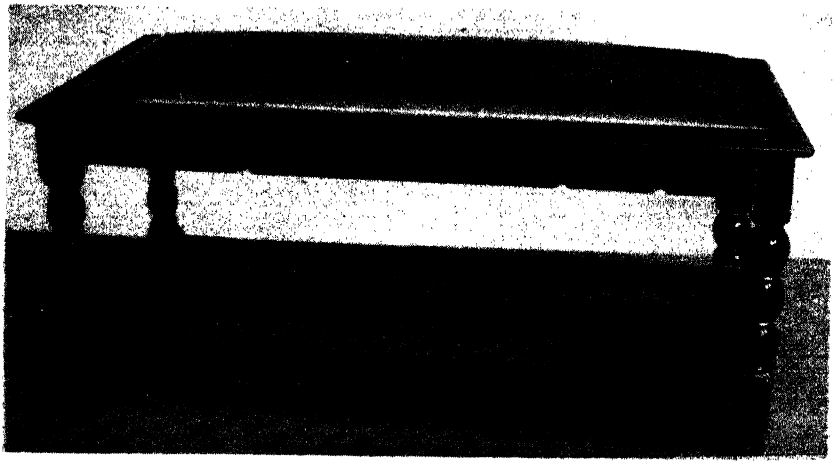


OAK SETTLE

The settle is mortised and tenoned together, and the seat frame made and fitted. Corner blocks are screwed and glued home, both to strengthen the corners and to support the loose seat which rests upon them.

The legs are hand turned in the lathe.

The seat frame is made with bridle joints, pegged, and is upholstered and finished in calf-skin. The surface of the skin may either be stained lightly (as otherwise it shows finger marks badly) or it may in addition be tooled and modelled as shown. If a dark oak finish is used, the skin should be stained down to harmonize with it.

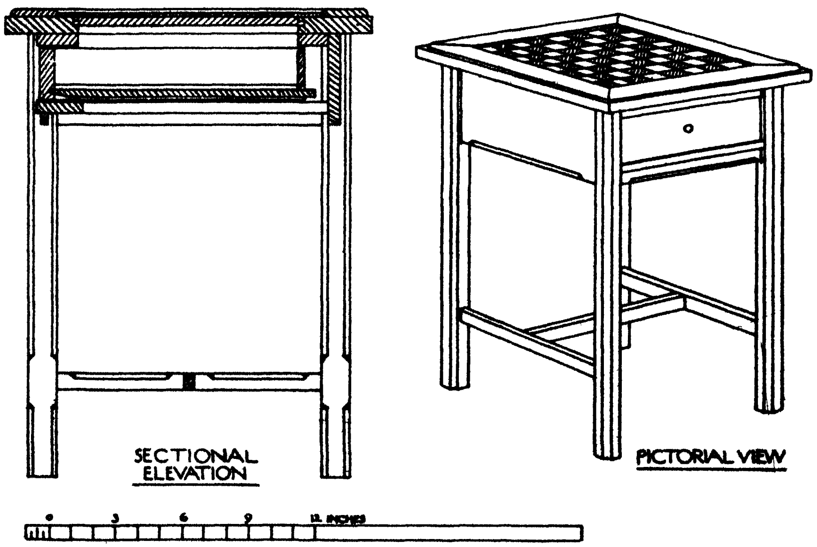


Small Occasional Table and Chess Table

The constructional details are straightforward in each case, and they are evident from the illustrations.

The chess-board is made of parallel strips of walnut and sycamore, rubbed together and sawn across, each alternate new strip so made being moved along one space. After cleaning up the edges these are glued firmly to a light backing. The whole is then glued to the table top, a moulding strip being mitred round it to cover the edges. This moulding is itself set back from the table edge to form a moulding line.

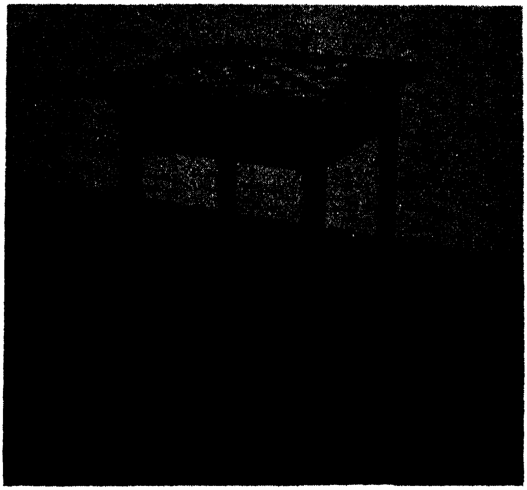
A CHESS TABLE



SECTIONAL ELEVATION

PICTORIAL VIEW

The edges of the top of the occasional table may be moulded, chamfered, or decorated by gouge cuts. If oak is used, narrow chamfers may be used with advantage on the framing edges, but if in mahogany it is best to rely on slenderness in the proportions, with slightly tapered legs.



Mahogany Chess Table

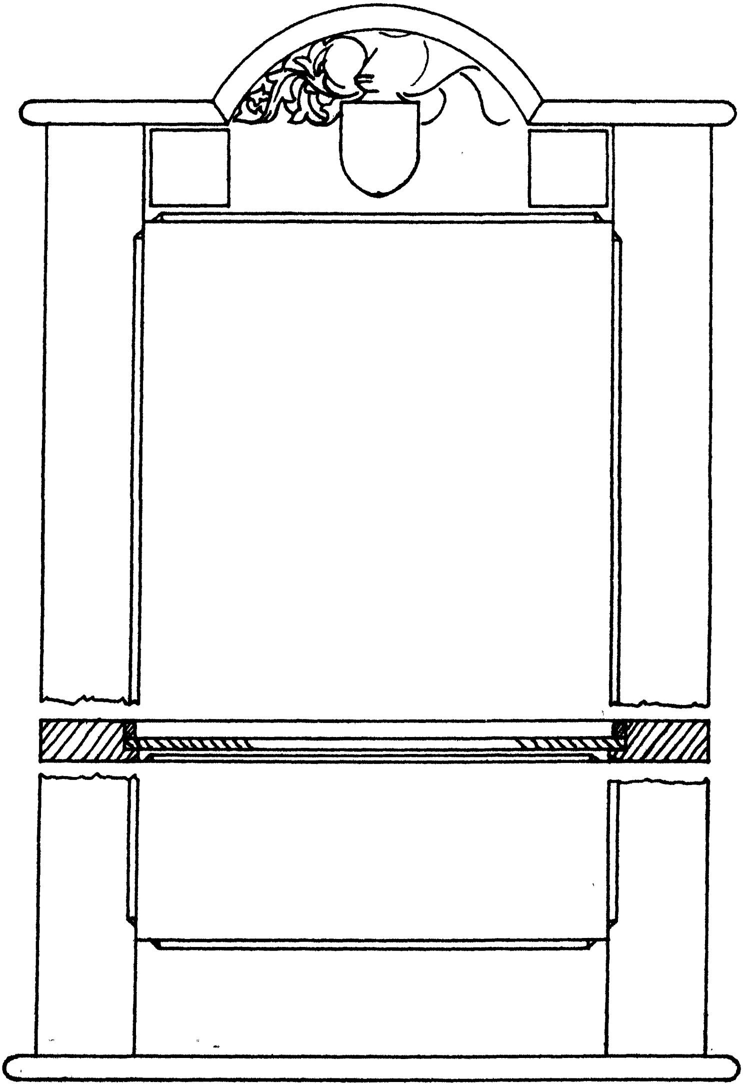
The table illustrated on page 32, opposite, is in Oak, and has stretcher-rails instead of a shelf, with stopped chamfers on legs and rails. The surfaces of the Mahogany table are left plain.

Notice-board

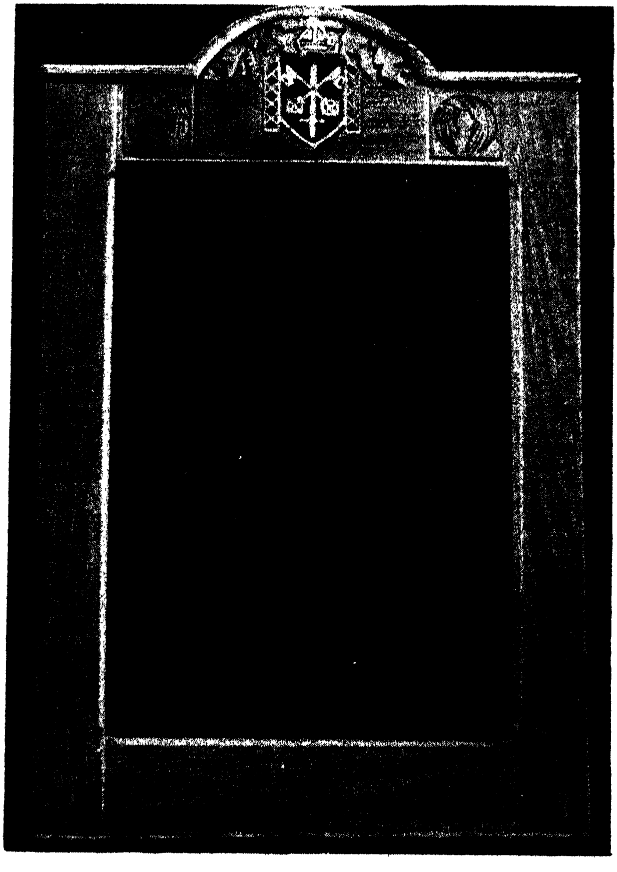
Carried out in light oak with low-relief carving and enamelling, this is really a fairly difficult piece of work. The arms are formed of pierced, sawn, and hammered copper or silver sheet, the ground being filled with enamels or with the special hard wax used for plaques, depending upon the equipment to hand. The surrounding "mantling" is in low relief on the top rail, whilst the winged ox-heads, treated similarly, form an interesting unit to each end.

The capping moulding is cut from the solid, mitred up, and slot-screwed to the frame.

The long and short-shouldered mortise and tenon joint is used to provide the rebate necessary to take the baize-covered centre panel.



A NOTICE-BOARD

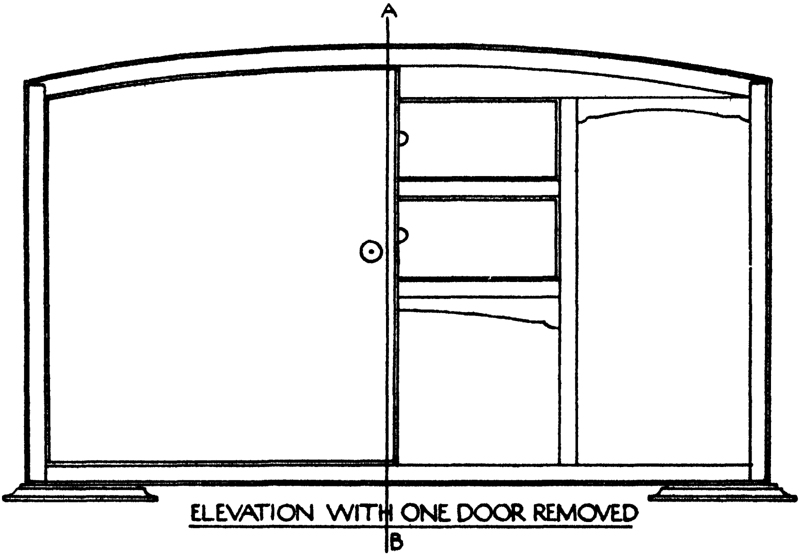


A Small Cabinet

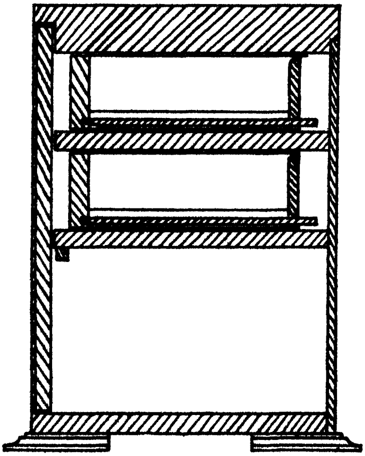
Mahogany is used for this design, the doors being veneered with lacewood, and black line is run in to finish the edges. The doors are cleated to keep them true. Small wooden knobs are turned for them.

The slightly-curved top is secret-dovetailed to the ends and is cut from the solid. The inner face, however, is left flat, the front edge being rebated out to take the doors.

An alternative design is shown, in which amboyna is used instead of lacewood, having a recess above two drawers.

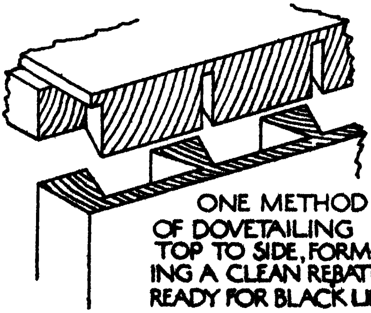


ELEVATION WITH ONE DOOR REMOVED

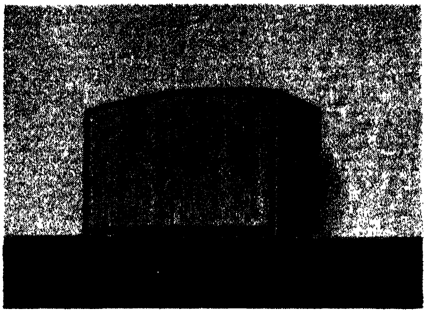


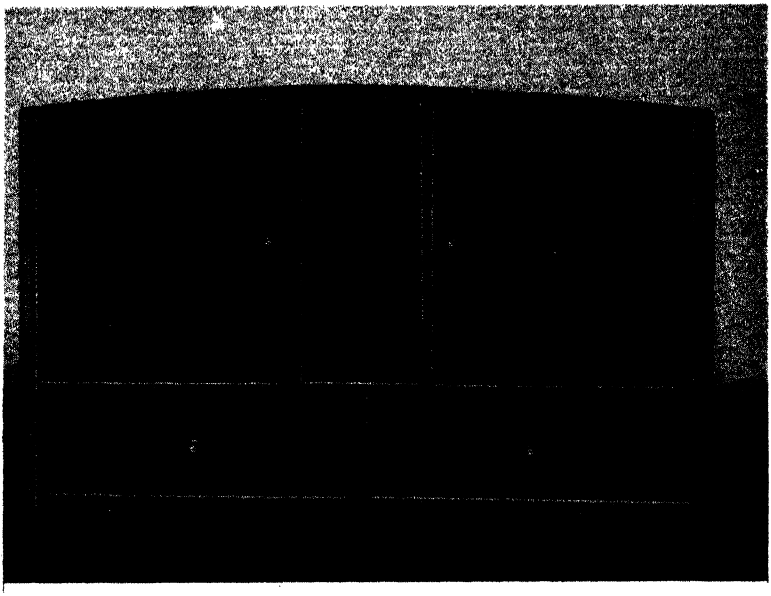
SECTIONAL ELEVATION ON A-B

STATIONERY CABINET IN MAHOGANY. THE DOORS AND DRAWER-FRONTS VENEERED IN LACEWOOD



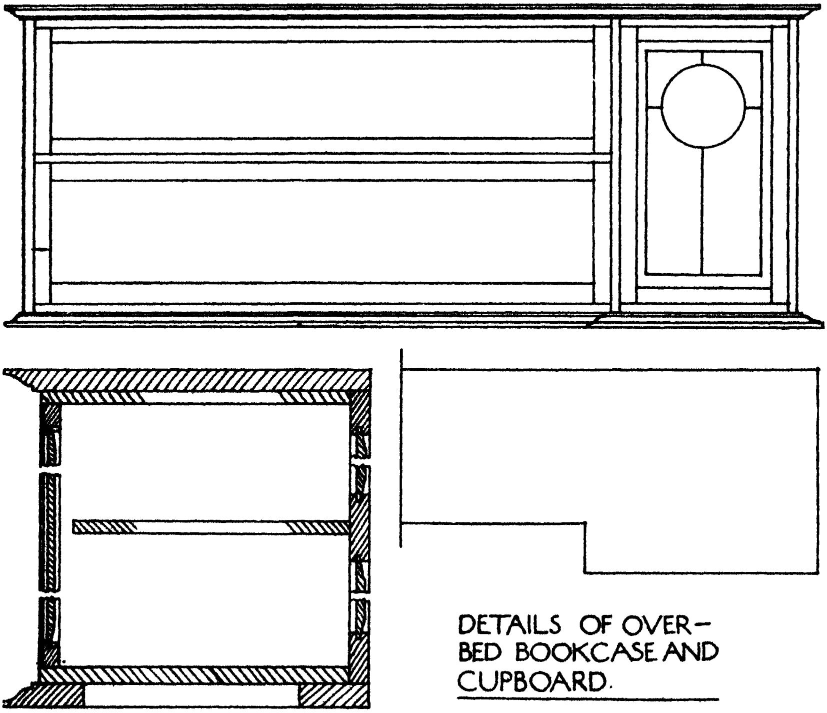
ONE METHOD OF DOVETAILING TOP TO SIDE, FORMING A CLEAN REBATE READY FOR BLACK LINE





Bookcase

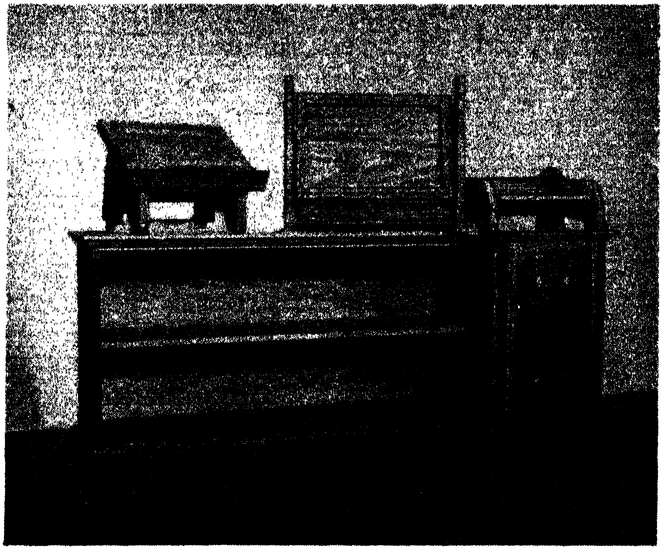
This design is intended as a fitting for a small bedroom, the bookcase resting on a stand made to clear the head or foot of the bed, but standing over it. The cupboard is then a useful addition.



DETAILS OF OVER-BED BOOKCASE AND CUPBOARD.

The carcase top is one piece, and the bottom; the partition being housed into both. A solid moulded top is fitted to the carcase, and a bottom moulding mitred up as shown. The door panel only is veneered.

The back is framed and panelled.

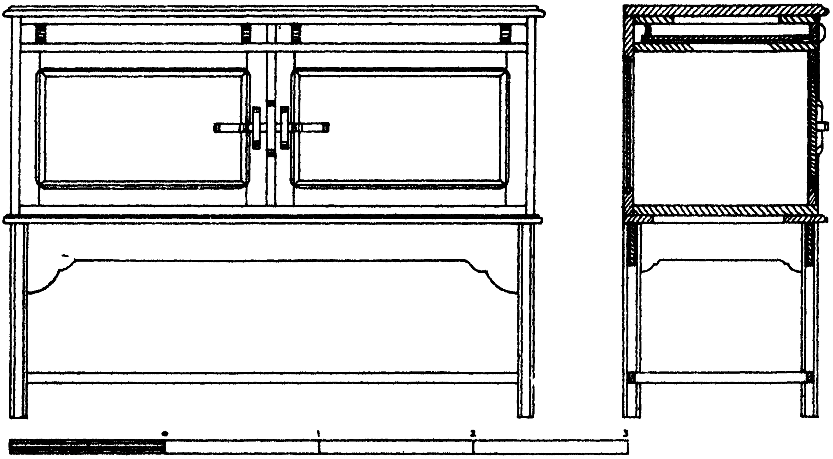


OVER-BED BOOKCASE AND CUPBOARD, DRESSING-TABLE MIRROR, READING-STAND, AND BOOK-TROUGH

Bookcase in Mahogany, with door panel, veneered in Mahogany and Satinwood. Mirror in Canary Pine. Stand in Oak. Trough in Mahogany.

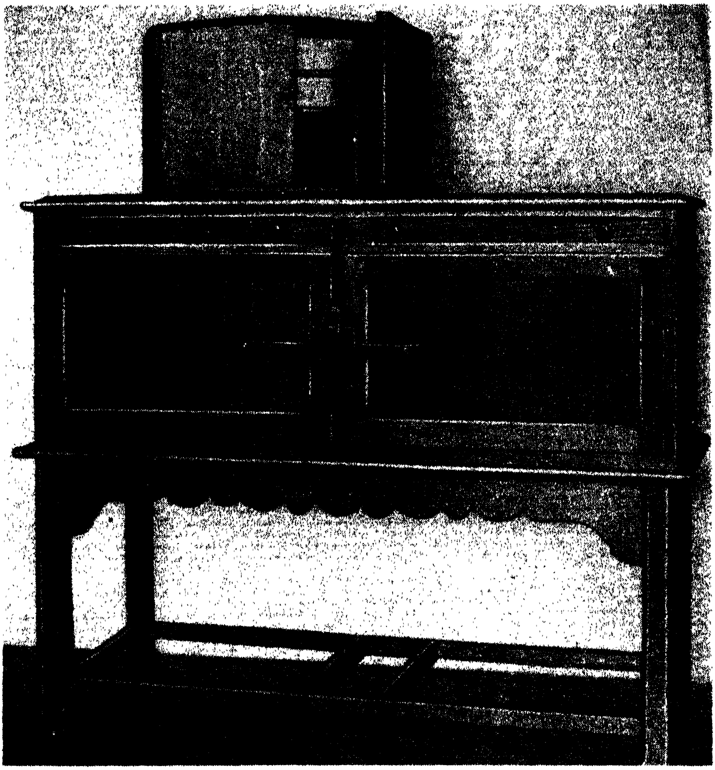
Small Sideboard

This job is constructed with a housed partition and shelves, the carcase top being lap-dovetailed to the sides. The back is framed and panelled with two panels, the top rail being wide enough to cover the narrow drawers and the shelves. The actual top is screwed on from underneath and buttoned.



A SMALL SIDEBOARD

Oak latches are used for the doors, which are panelled flush with the framing surfaces. The panels have a narrow bevel. Oak pulls are fitted on the drawers.



OAK FIREPLACE SURROUND

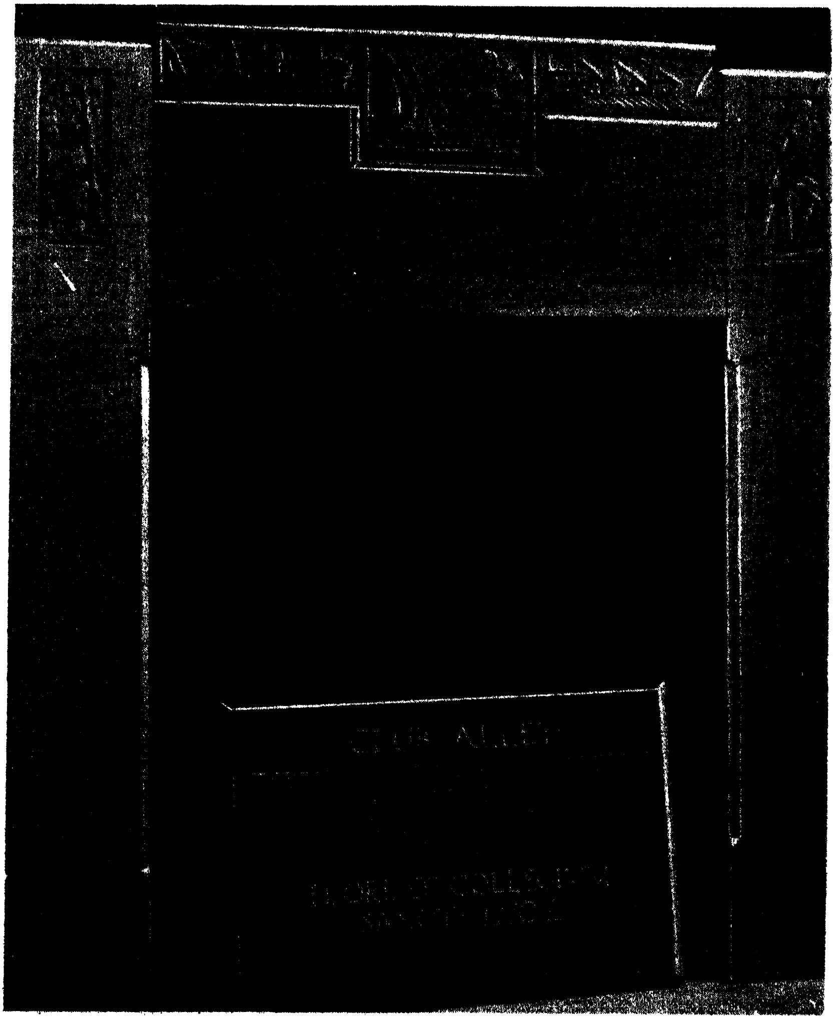
This consists of a deep cross rail mortise and tenoned into the sides, the joint used being the haunched double tenon. The use of a chamfer on the outside edges of the uprights, stopped as shown, gives the suggestion of a base for these members without disturbing the desired plain surfaces.

The panels are carved in low relief to present a decorative rendering of a given subject, in this case the Battle of Lepanto.

Shelves and brackets have been dispensed with, as they would detract from the value of the panels by breaking up the surface too strongly, and by interfering with the light and shade of the carving.

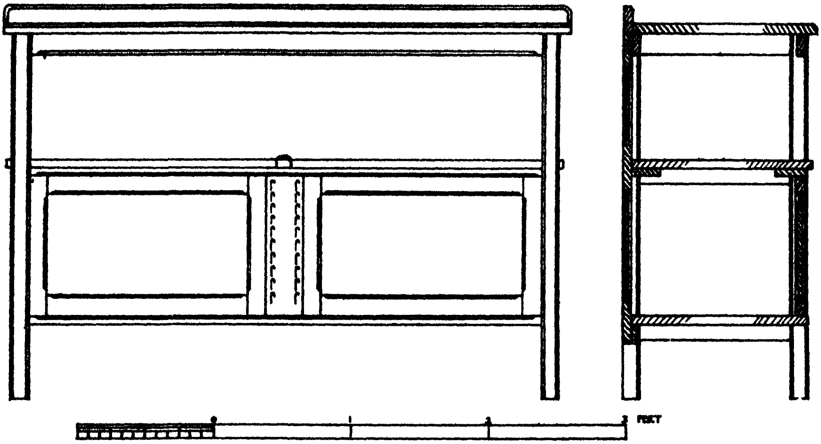
Sidelighting is essential for the best appearance of such work in a room.

The whole is wax finished in natural colour.



SIDEBOARD

Top, shelf, and two cupboards are provided by this design. The mortise and tenon joint is used throughout, with the exception of the cupboard sides and back, which are stop-housed.



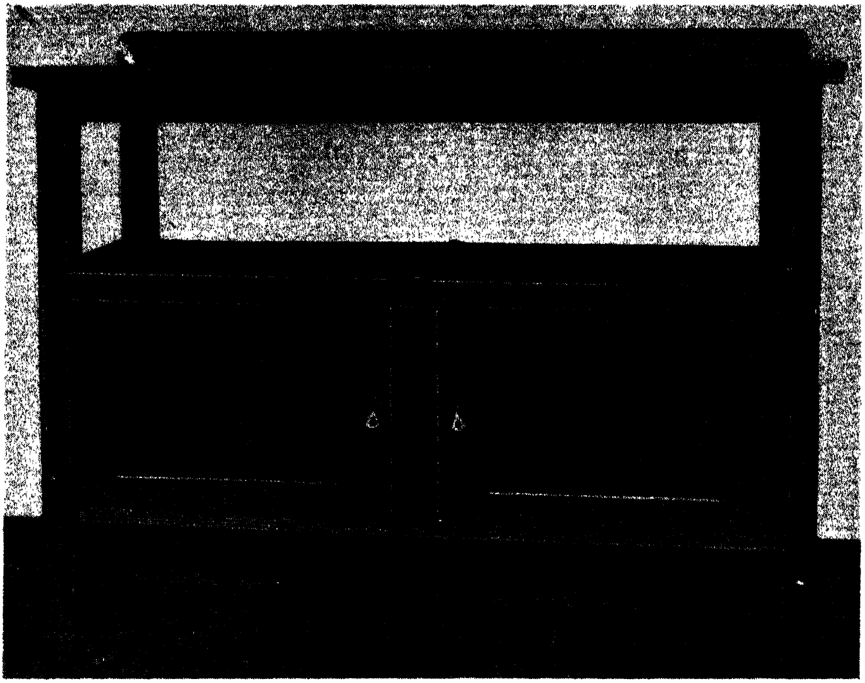
A SMALL SIDEBOARD

The shelf is fitted round the legs and allowed to project for $\frac{5}{8}$ in. all round beyond the framing.

The edges of the top, at front and ends only, are bevelled off, and simple gouge tooling is carried along the bevel face. This, with the central upright, forms the only added decoration, all surfaces otherwise being left plain.

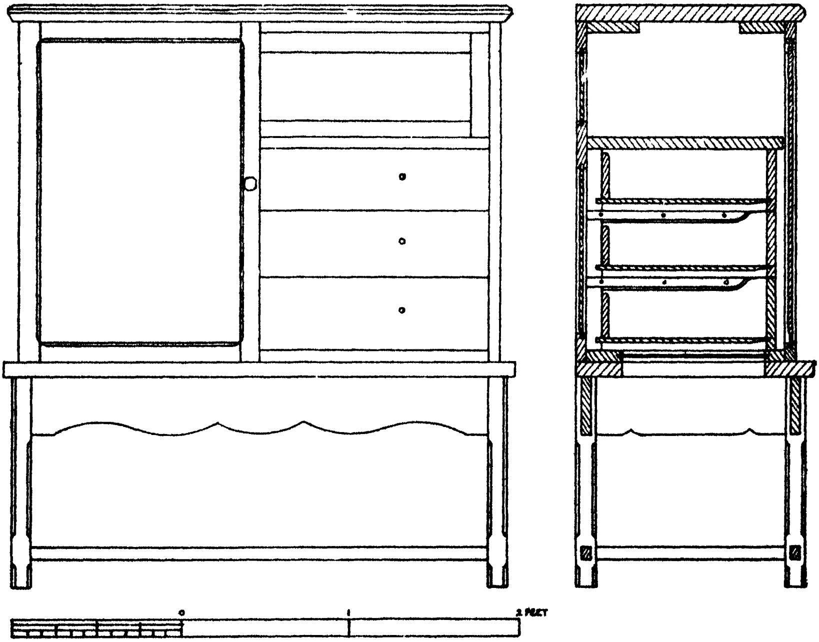
Narrow chamfers are taken along the inside edges and up the outside edges of the legs.

The job is left light oak.



Linen Chest

This piece is carried out entirely in chestnut, the strongly marked grain of which, when specially chosen for the door panels, makes further ornamentation of these quite unnecessary.



A LINEN CHEST

The inner edges of the door frames, however, are quarter-rounded down to the panel surface, or stop-chamfered, on the front.

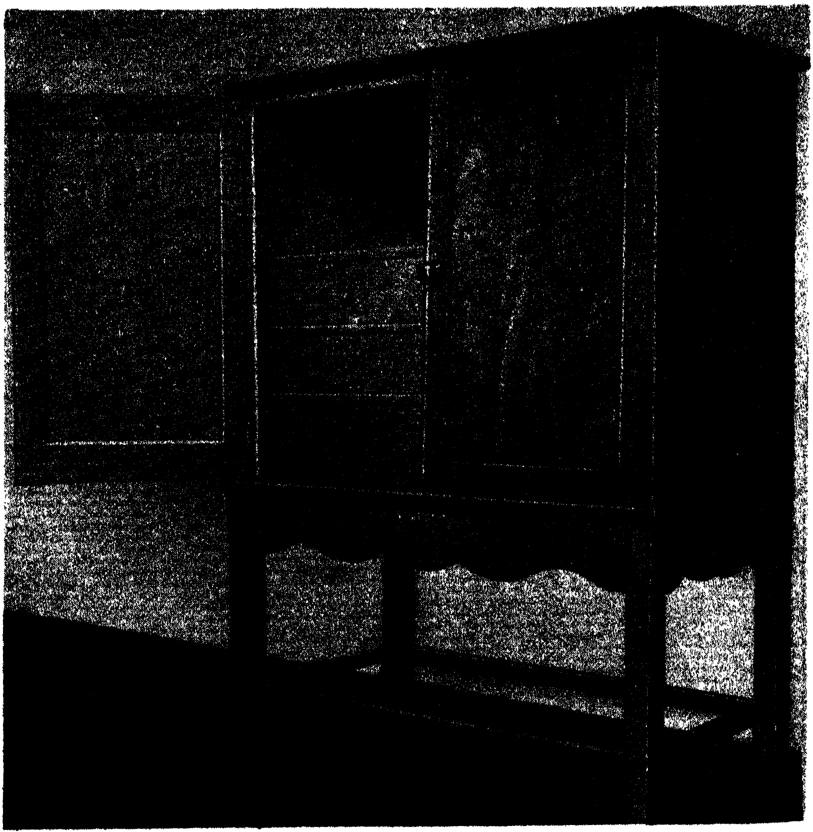
A decorative moulding line—a "wave" edge cut from the solid edge—is provided between the carcase and stand to give a note of sharp contrast to the plain surfaces, and to emphasize the position of this line below the centre of the job.

Three long drawers the full width of the carcase are fitted, the doors being hinged on the outside and covering them.

The back is framed, panelled, and fitted in the usual way.

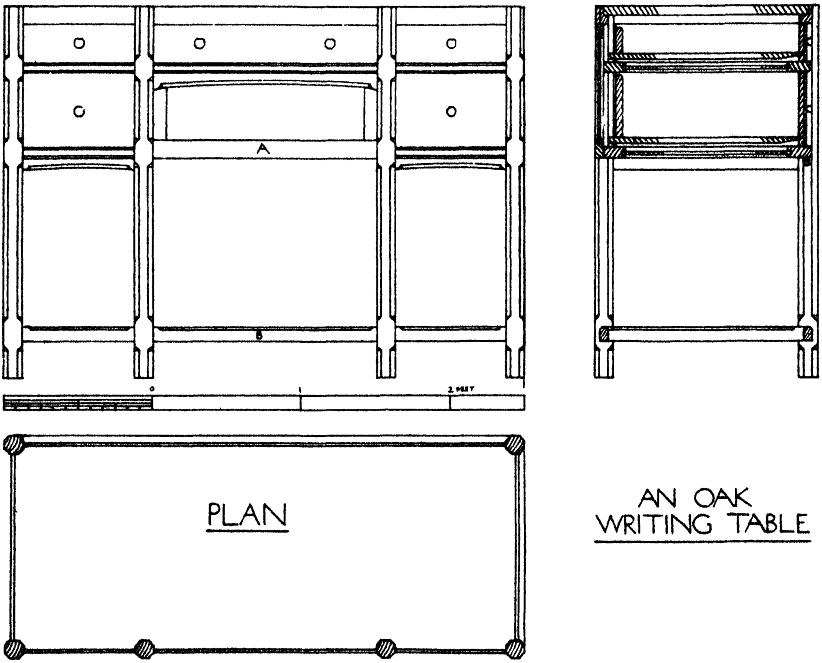
Wooden pulls are made in this case, being more in keeping with the job as a whole than the average metal types.

The surfaces are unstained.



Writing Table

The top writing surface is let in flush with the top framing rails to allow the legs, which are octagonal, to be brought right through. The end grain of these six legs forms a striking but natural decorative feature on the top.

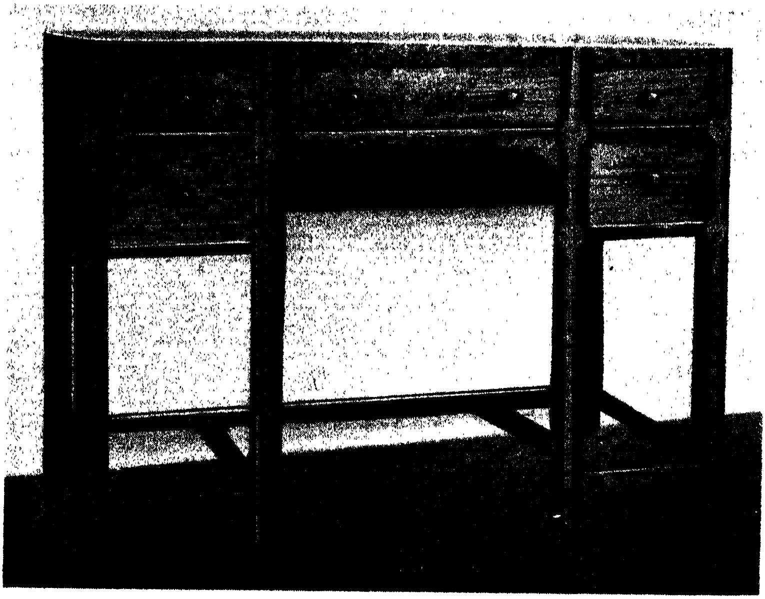


AN OAK WRITING TABLE

Bosses are formed where the drawer-rails meet the legs by stopping the wide chamfers which make the remaining portions of the legs octagonal.

A framed and panelled back is fitted, and by making this extend the whole length of the table rigidity and strength are ensured.

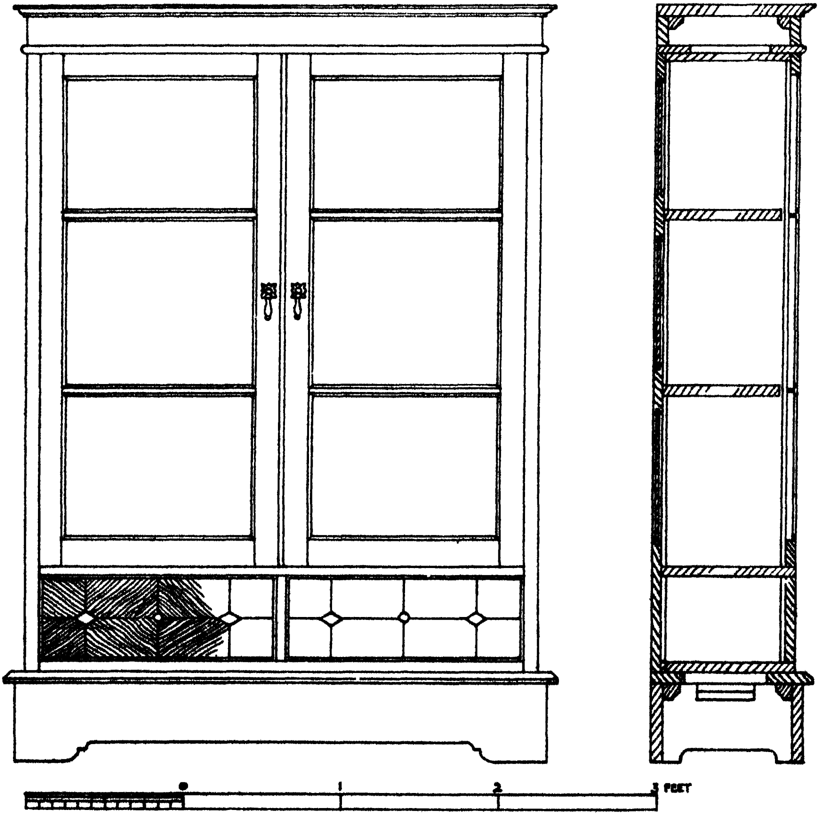
Octagonal oak or walnut drawer-pulls are made, to be in keeping with the whole.



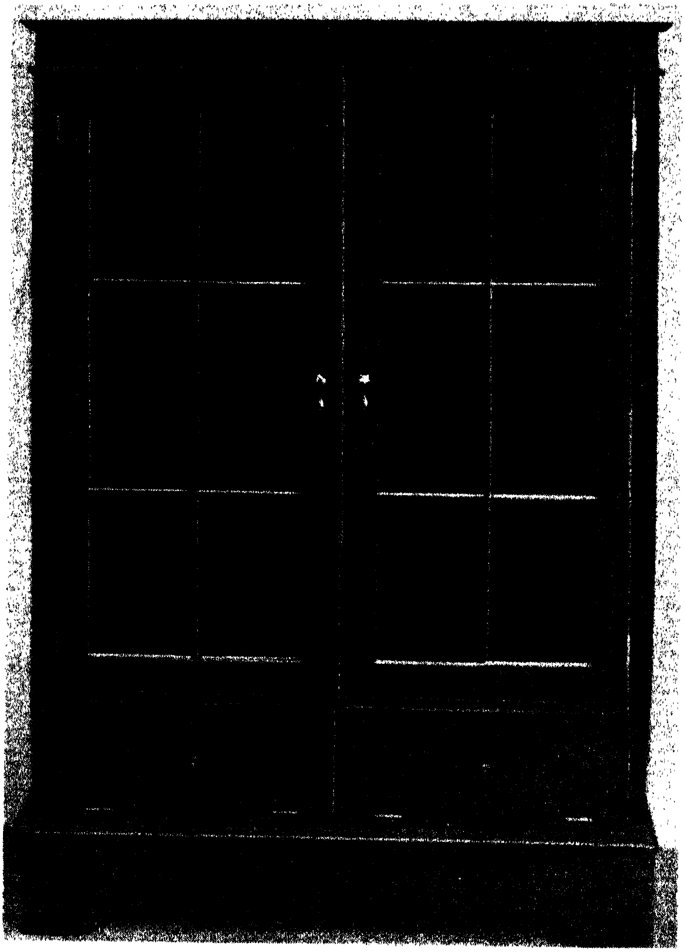
MAHOGANY BOOKCASE

This piece combines with the carcase the conventionally built-up plinth and cornice. The doors are "barred" as indicated. The back is framed and panelled.

Two drawers may be included beneath the doors in place of the falls, which, in this example, give narrow cupboards for holding flat objects such as music folios. These fronts may be veneered, but the lines should be straight and simple to harmonize with the severity of the long main lines.



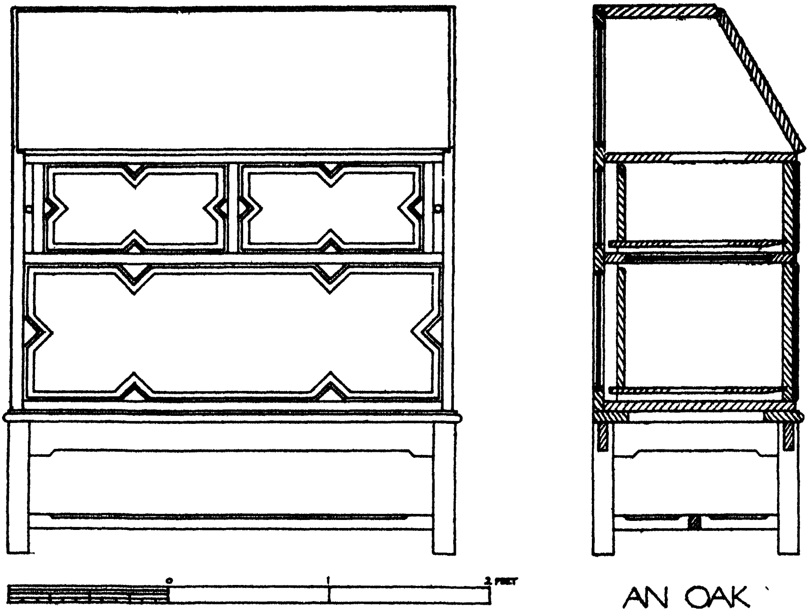
The staining of mahogany is essential, so that this piece of work is stained, grain-filled, and then given a reasonably high polish. For such a large job wax polishing is very suitable.



Bureau

The bureau shown is of the conventional type, the fall lowering to form the writing surface and disclosing the stationery fitments.

The carcase is made separately from the stand, the moulding line dividing the two. They are screwed together after the moulding is fitted to the stand.

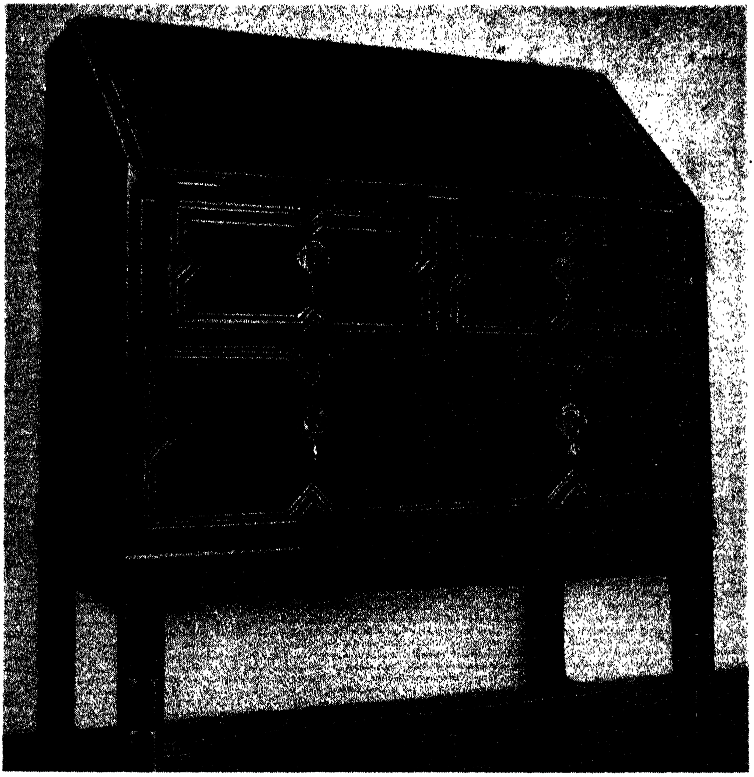


AN OAK BUREAU

Well-figured oak should be selected for the top, fall and drawer-fronts. The latter are set back from the carcase face when fitted to the drawer-stops to allow for part of the thickness of the planted moulding. This moulding runs round each drawer-front, as shown, giving it a "sunk" appearance, and being the only ornament necessary. Frets, etc., should not be planted on the fronts themselves in addition to the moulding.

The fall, when lowered, should rest on the supporting slides, shown at the ends of the upper drawers, and the writing surface should be 30 in. above the ground. This measurement becomes the starting-point for the proportioning of the whole design.

Secret mitre-dovetails should be used for jointing the carcase top.



Care must be taken when fitting the fall to rebate the top and side edges only just enough to ensure that the bottom edge meets the edge of the shelf for hinging. The fall should then lie over the carcase edges for two-thirds of their thickness, as shown. This example is finished dark oak.

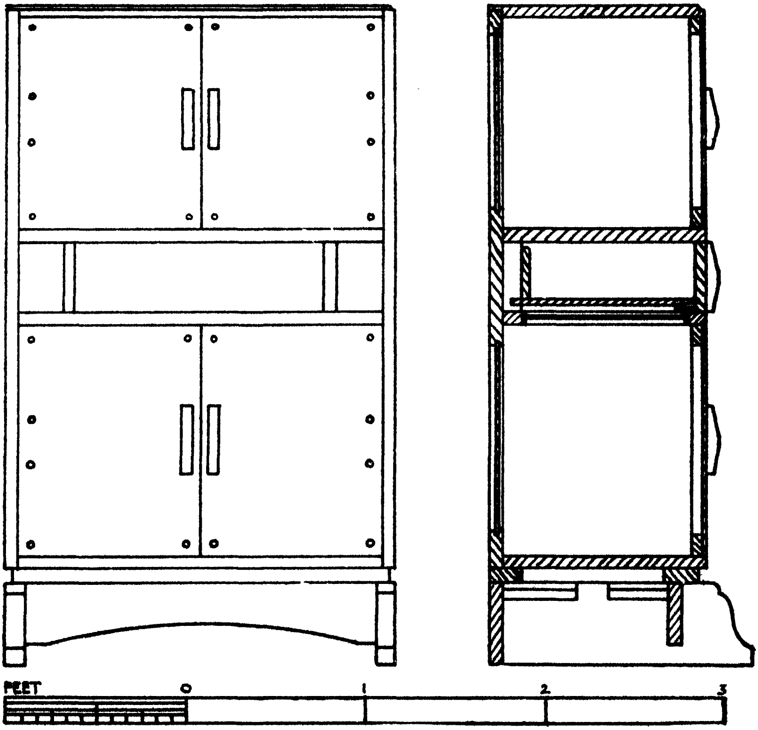
CABINET

Designed for the special purpose of storing gramophone records and music sheets, this piece of furniture, in light oak and black walnut, shows the full effectiveness of straight, severe lines and plane surfaces.

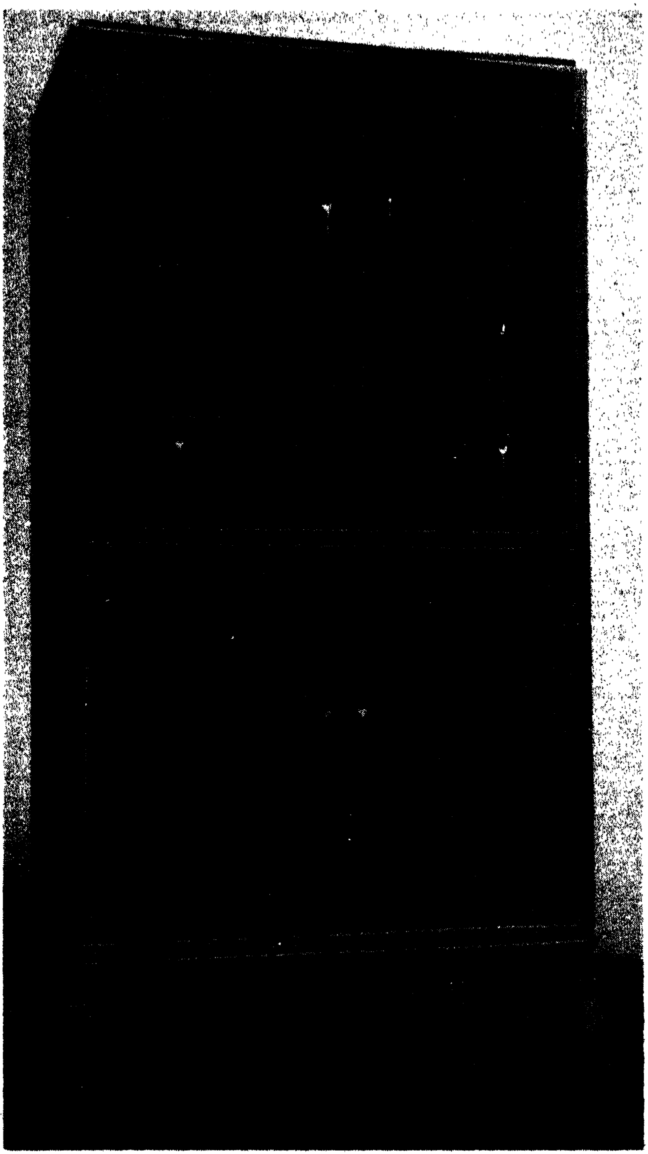
The only ornamental features are the walnut pulls and oak pegs, the latter being spaced round the edges of the doors, as shown, at irregular intervals, and cleaned off flush with the surface. They serve a useful purpose in strengthening the door fronts, which are laid on the frames and glued. The inner edges of the frames are chamfered to relieve any unnecessary harshness of line when the doors are opened.

No overhanging top is used on work of this type; the top shown being secret-dovetailed to the sides for half its thickness, and rebated back along the front edge for the remaining half to form a simple moulding line and "step."

This constructional detail is shown in the drawing on page 74.



A Cabinet



MUSIC CABINET

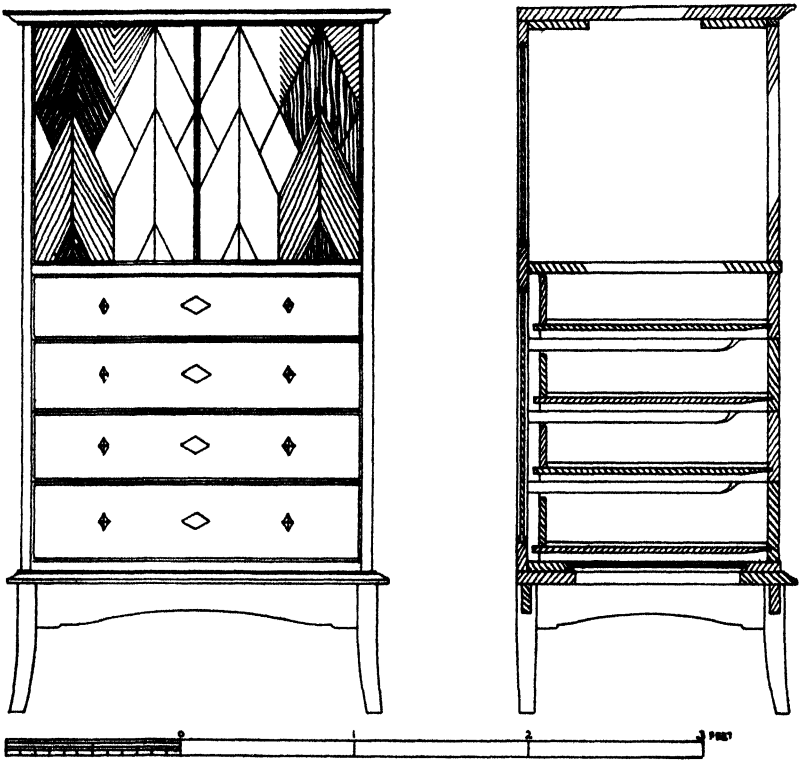
In this carcase, as there is a projecting over-all top in addition, the top rail is set back the thickness of the doors to allow them to extend to the top of the carcase. Both carcase top and bottom are lap-dovetailed to the sides, the shelf being dovetail-housed in to hold the shoulders securely.

As shelves between the drawers would make the job look clumsy they are dispensed with, the drawer sides being cut and the drawers fitted on hidden runners, as trays.

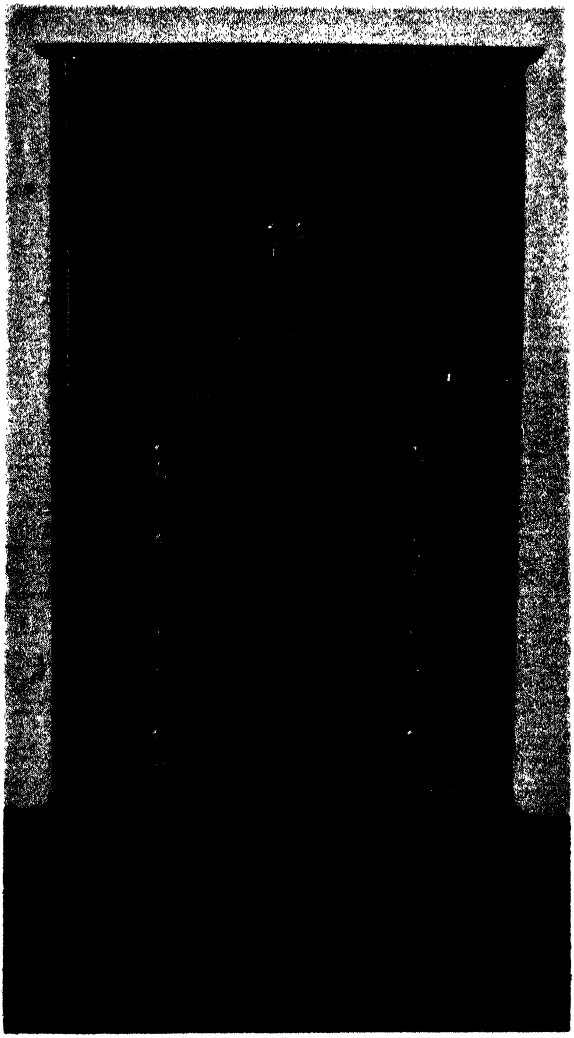
The doors are cleated and solid, and are veneered with Coromandel and mahogany, as are the drawer-fronts.

The back is framed and panelled. The stand is framed up separately with a capping moulding. The stand legs are slightly curved outwards to the foot, and very slightly tapered.

The job is stained, grain-filled and polished.

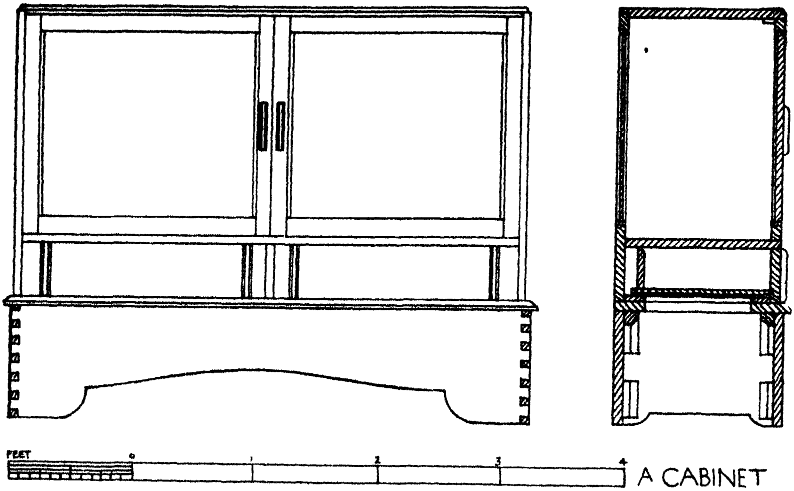


A MUSIC CABINET



Cabinet in French Walnut

Viewed from above in the normal way this cabinet, carried out in French walnut, does not appear to have such a heavy plinth as is suggested by the accompanying photograph. It is designed with extra depth from back to front to hold folios, drawing materials and similar apparatus. It could, with slight modifications, be used as a sideboard.



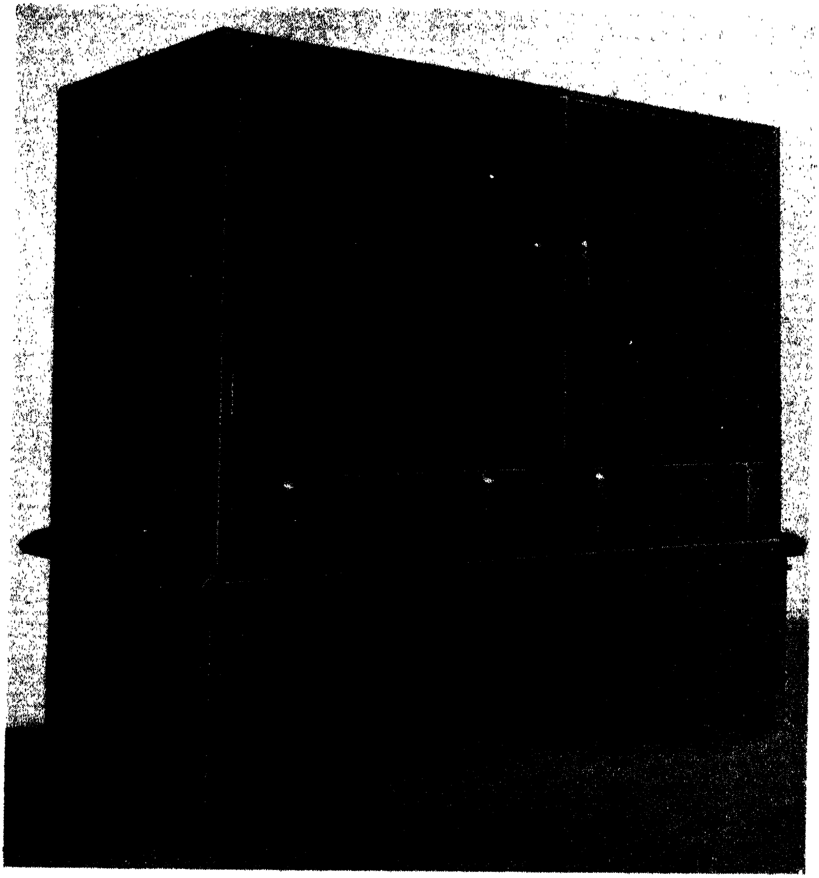
A CABINET

No veneer is used on this job, but specially selected timber is chosen for the door panels and top, as this wood has a striking "figure" and takes a beautiful polish. The natural colour is pleasant, whilst the "figure" shows strong markings of grey-purple to nearly black.

The plinth-base is through-dovetailed, the pins and tails forming a decorative edging when used in this way.

Shaped wooden pulls, of the same wood, are used for the doors and drawers.

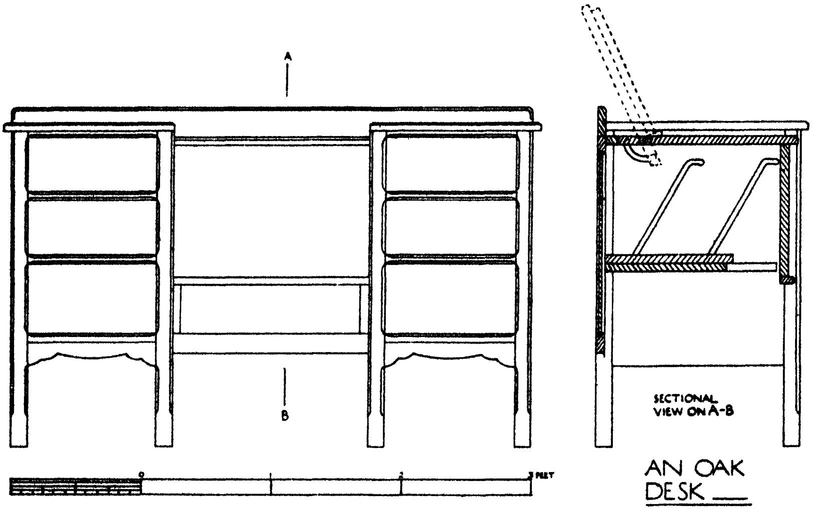
The doors are flush-panelled on the front, otherwise constructional details of the carcase-top correspond with those in the illustration on page 74.



OAK TYPEWRITER DESK

The central part, shown open, consists of a flat top, to which is hinged a front apron piece. The top is swung up to just beyond the vertical, as illustrated, when the apron piece folds to it, forming a stand for papers, etc.

The typewriter shelf is raised forwards and upwards to the position shown, working in parallel grooves. When it is desired to close the table this shelf slides down and back to rest upon the fixed shelf underneath: the top and apron piece hinge down, and the table is ready for ordinary use.

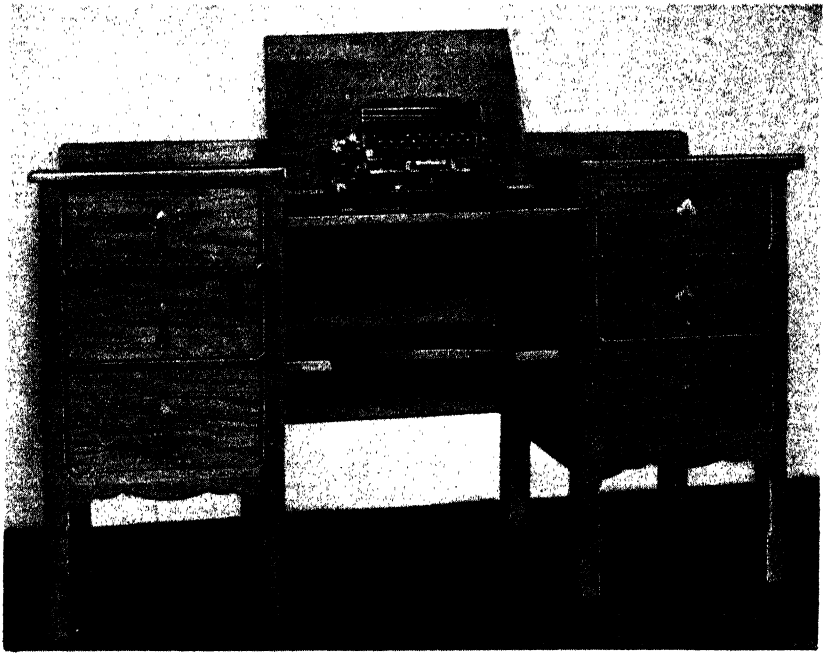


The framed and panelled back extends the whole length of the table, being stop-rebated into the outside legs and screwed to all four at the back. The central fixed shelf is dovetail-housed in. The tops are "buttoned" and screwed.

The chamfer is the sole decorative feature. Its use, to obtain the right effect by throwing shadow lines, needs care in choice of position. Side lighting is best for work of this type in a room.

The natural colour is retained, with a wax polish.

Wooden drawer-pulls would be a satisfactory alternative to those illustrated, which are oxidized metal.



WRITING TABLE

Mahogany is the wood used, the design being planned to give an appearance of slenderness.

The top of the upper carcase extends to the full length and is secret-dovetailed to the ends. The panelled back is also the full length and ensures rigidity and strength. The cupboard bottoms are lap-dovetailed to the ends and partitions, being provided to prevent any scraping of the table top by the door edges.

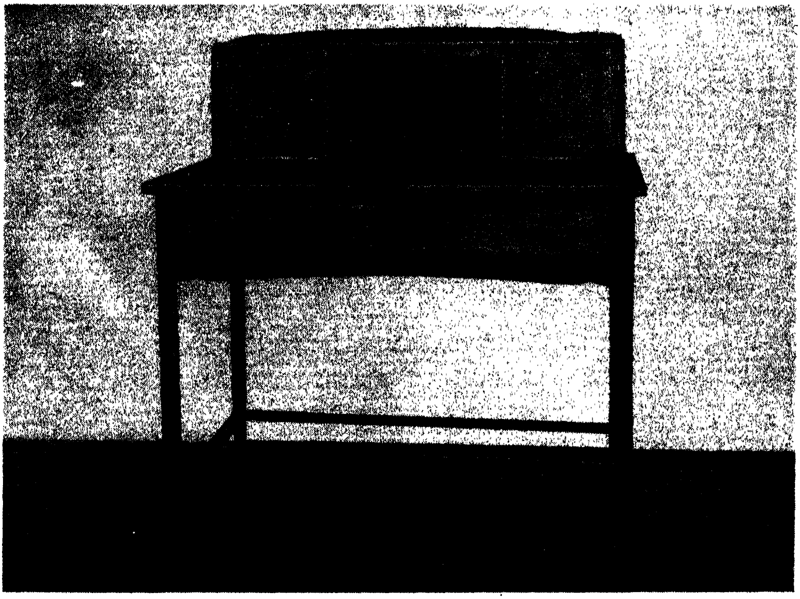
The table is made in the usual manner, the drawer-rail being framed up with the runners—again to obtain the maximum strength, as the job is rather slender.

A centre rail takes the place of a front rail in the under-framing to provide leg room when the table is in use.

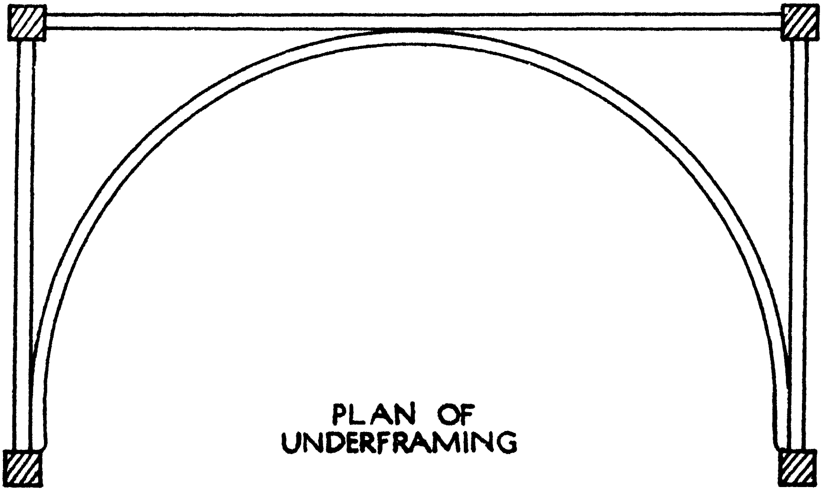
The doors are of the cleated solid type, and the decoration of the whole is restricted to edge-shaping, as shown, and black lines, which are run round the edges of drawers, doors, table-top and carcase-top.

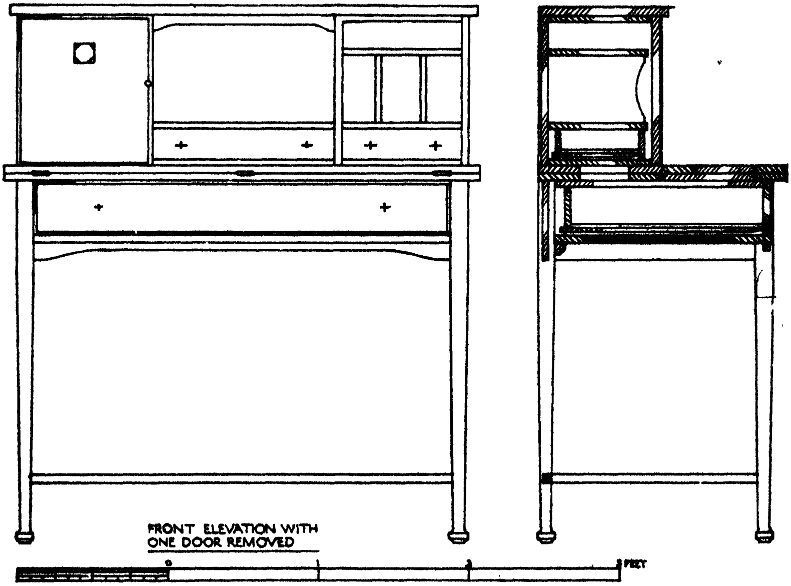
No veneer is used on the table illustrated, although it might be applied to doors and drawer-fronts.

The drawing shows an alternative design having the same constructional details.



A WRITING TABLE


PLAN OF
UNDERFRAMING

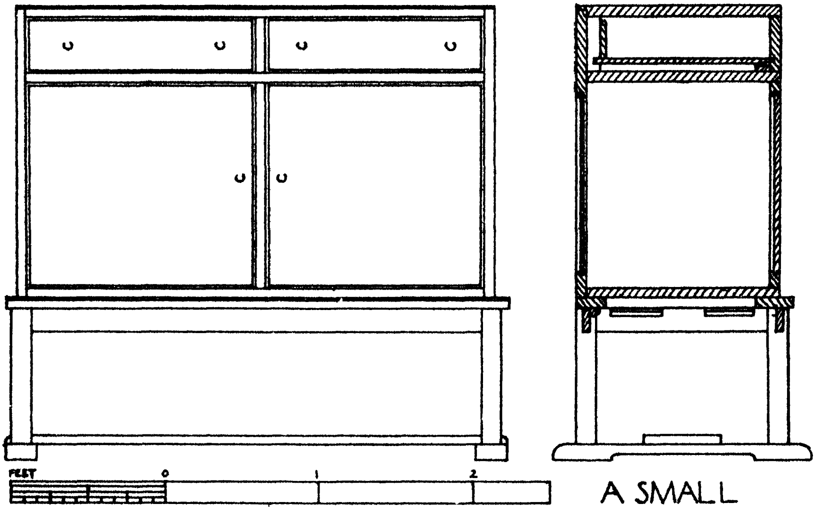


A Writing Table

SMALL SIDEBOARD

Made in mahogany, this sideboard is suitable for a small modern house. The veneer used for the door and drawer-fronts is Coromandel, which possesses a striking and beautiful "figure."

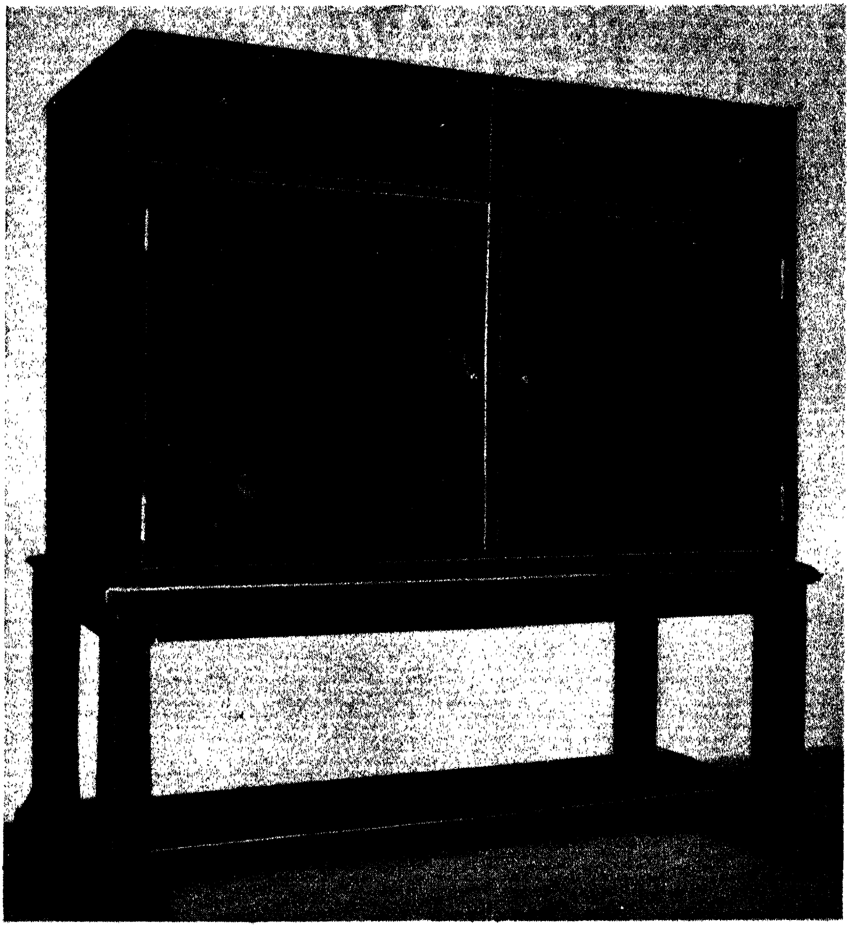
The doors, being too large to be left "solid" with safety, are framed and flush panelled on the front for veneering. Edges are finished with black line.



A SMALL SIDEBOARD

A framed and panelled back is fitted to the carcase.

The top does not overhang the carcase, and is jointed, as shown in the drawing on page 74.



Folio Cabinet

This cabinet, specially designed to hold large folios and drawing materials, is made of straight-grained oak, with figured oak doors. These are "pegged" to the door frames, mainly for strength, but also to give a decorative aspect by a constructional detail.

The carcase top is lap-dovetailed for only two-thirds of its thickness, thus providing a moulding line of one step, which is carried along the front edge as a rebate, the extreme top edge being slightly rounded off. This method again obviates the use of a projecting moulded top, which would be out of keeping with the type of design used for the whole cabinet.

The plinth is through-dovetailed at the front to provide a decorative feature in harmony with the remainder of the work, and with the nature of the material.

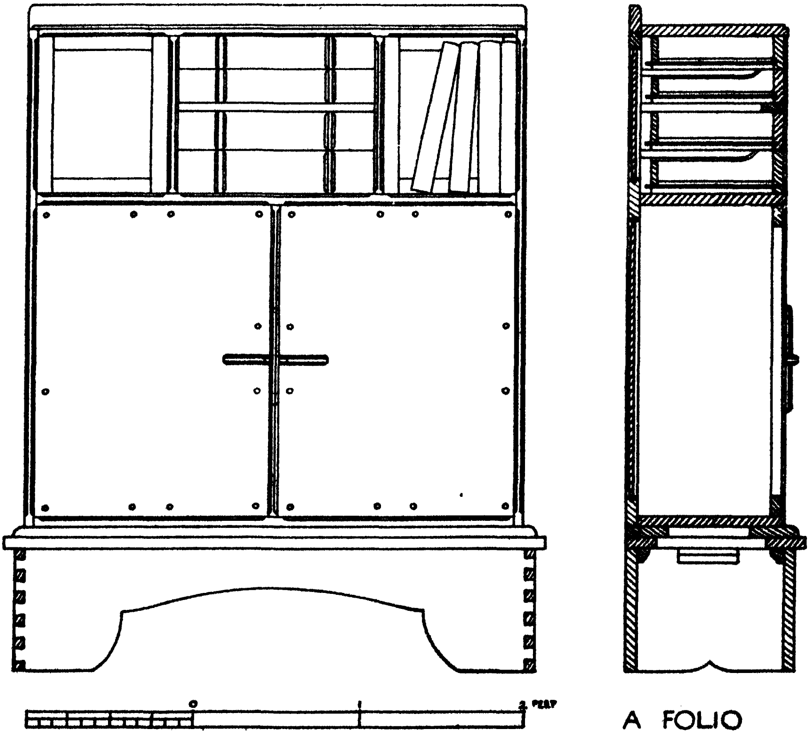
The drawers are fitted on the tray system to preserve the plane surface of the fronts. The open ends are for books.

Narrow stopped chamfers are run along the edges of the carcase members.

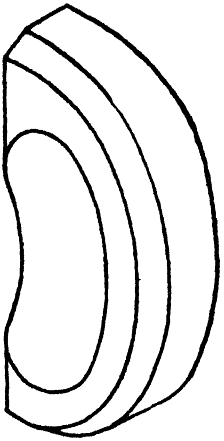
The back is framed and panelled.

The drawer and door pulls are of walnut, shaped and gouged to give a finger-grip, and dowelled to the fronts. The latches are also fitted in dovetailed grooves with stops.

A wax finish is used after thorough cleaning of the surfaces.

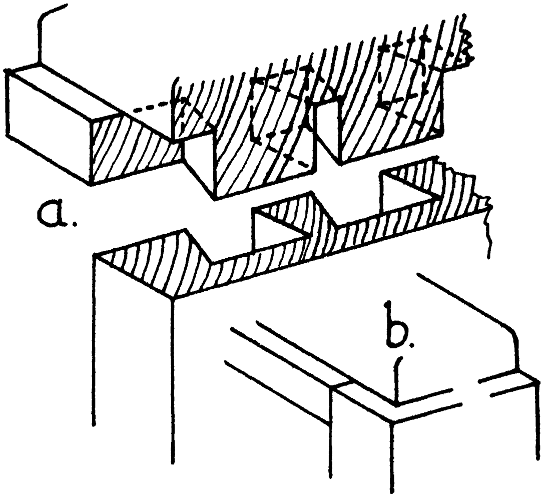


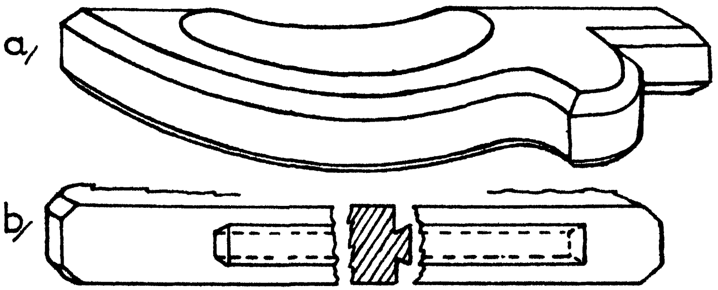
A FOLIO CABINET



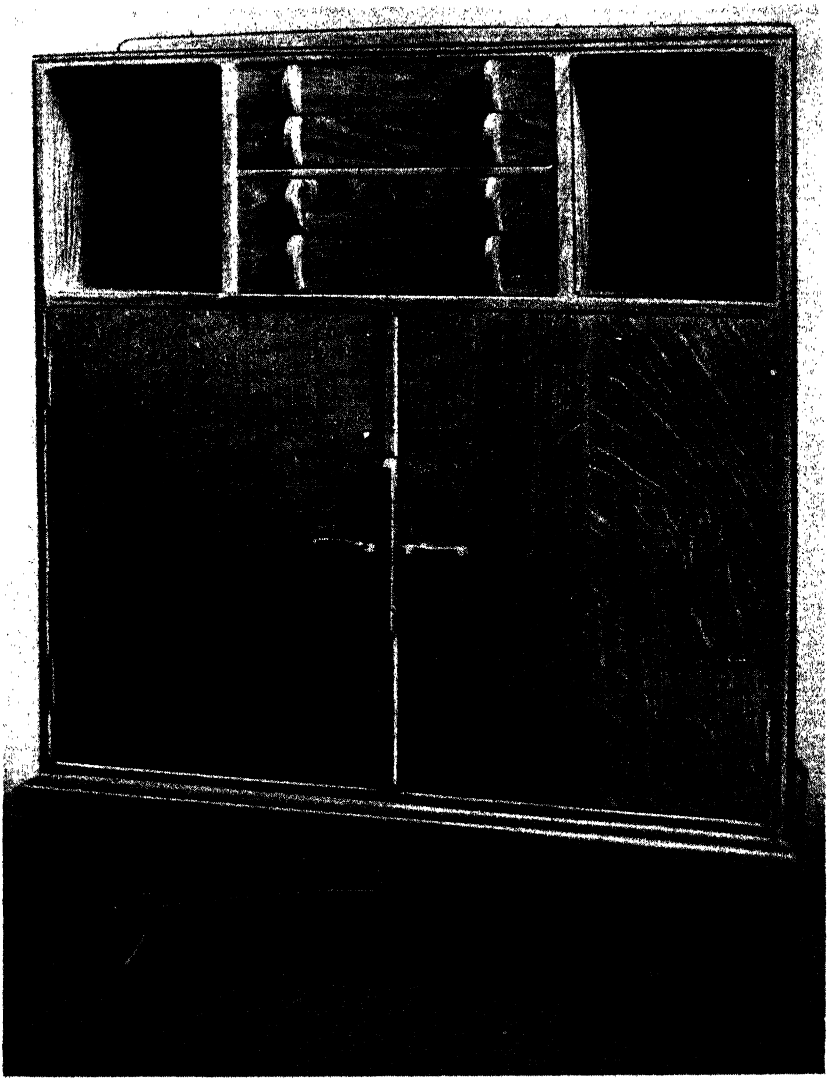
SKETCH OF A
DRAWER-PULL

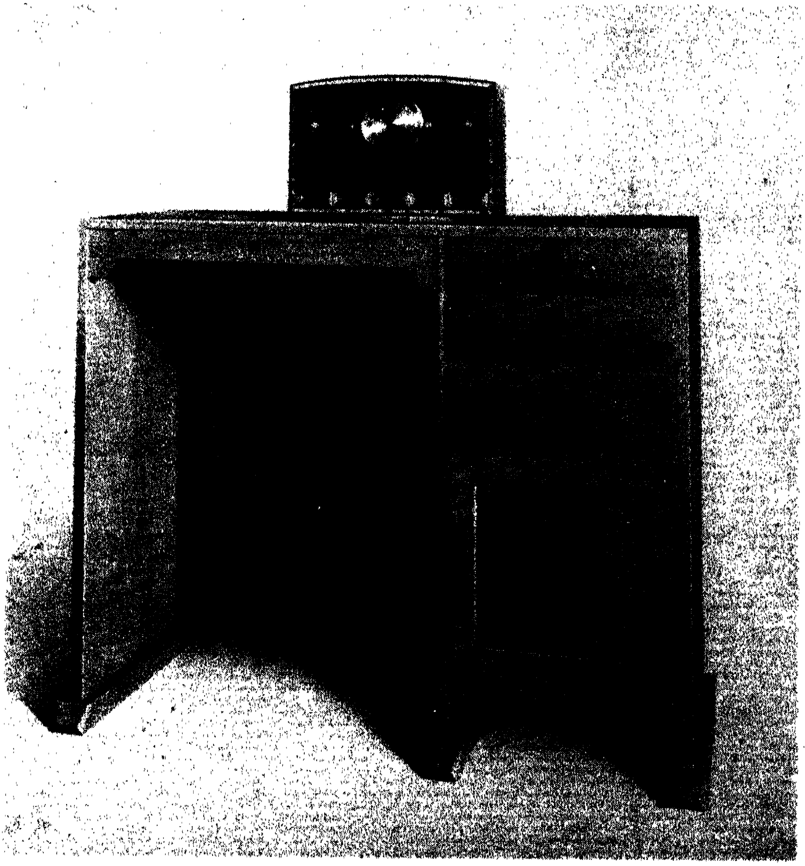
a. METHOD OF DOVETAILING TOP
TO SIDES.
b. FINISHED VIEW AT CORNERS.





a/ SKETCH OF DOOR-LATCH.
b/ BACK VIEW SHOWING DOVETAIL SLIDE

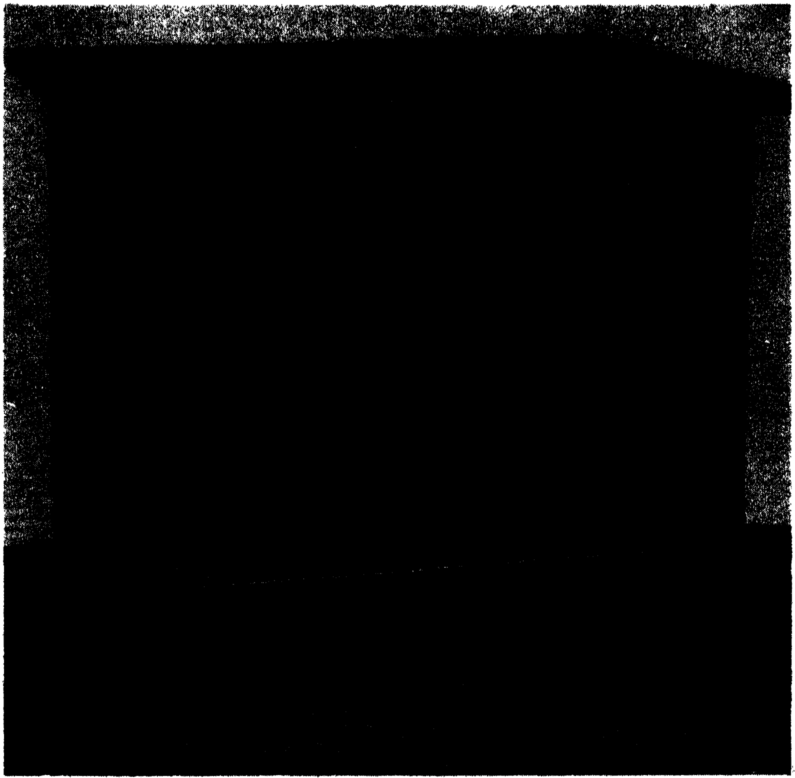




Writing Table and Clock-case

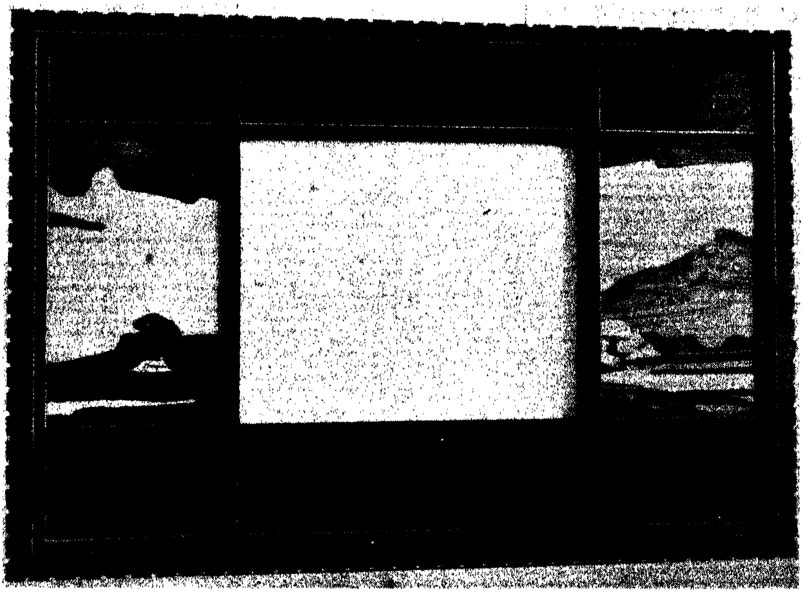
Table in Light Oak, with Walnut door and drawer pulls. Clock-case in Mahogany, herring-bone veneered front, with Satinwood inlays and banding. Made by a student during a two-year course.

Book Table in Light Oak



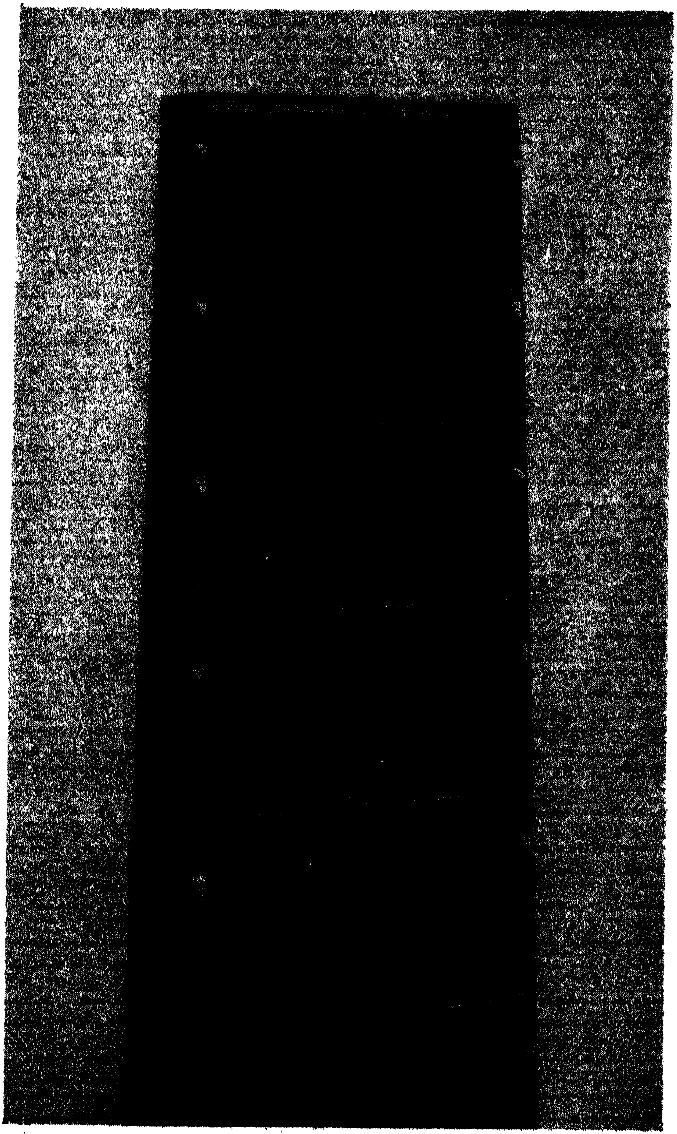
OVERMANTEL IN MAHOGANY

Inlaid with sycamore and rosewood line. The panels are an example of Intarsia carried out in Lacewood, Coromandel, Kingwood and mahogany.



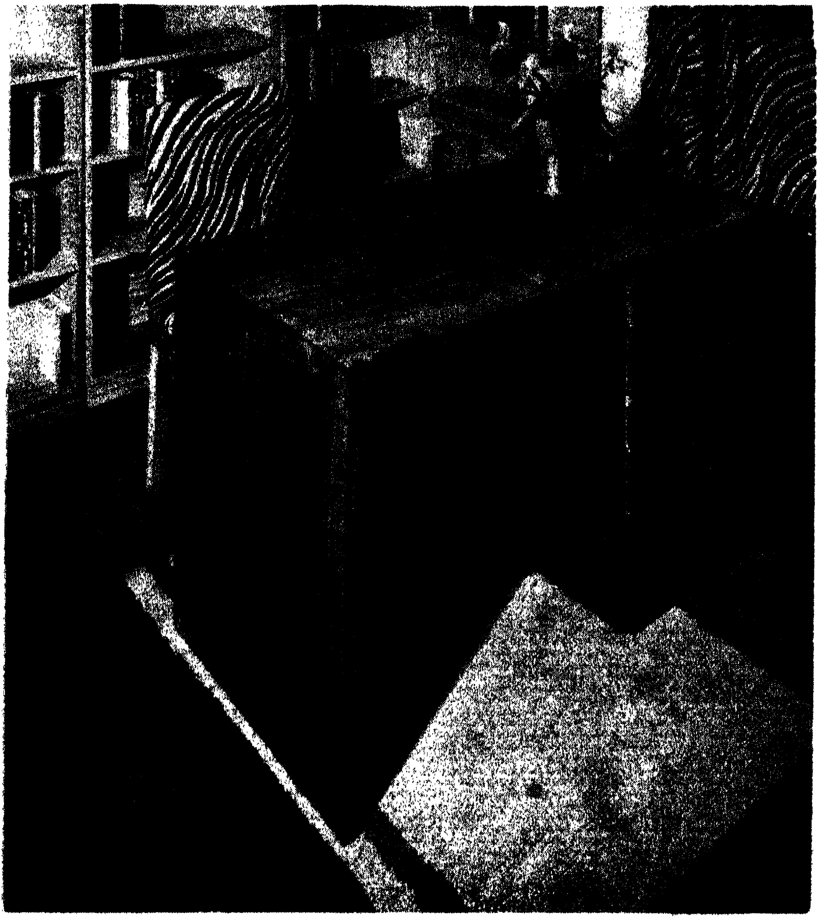
EXAMPLES OF MODERN FURNITURE DESIGN

By courtesy of Messrs. Gordon Russell, Ltd.

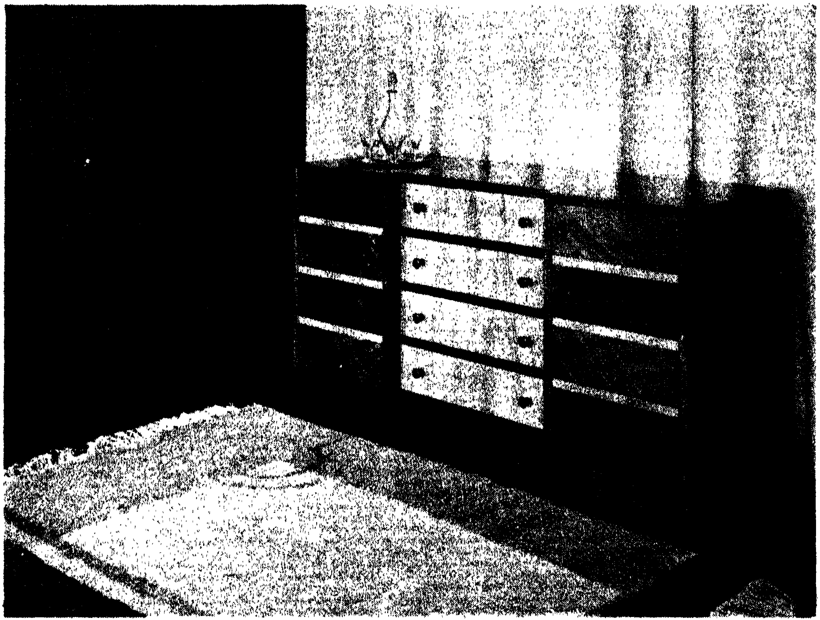


BOOKSHELVES

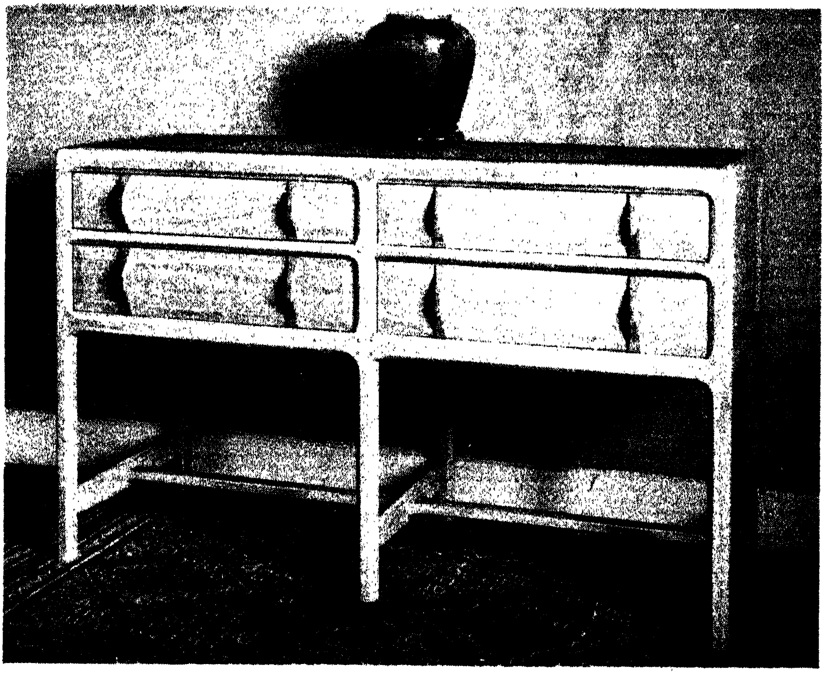
In English oak, brown oak, mahogany, walnut, or Jap. oak



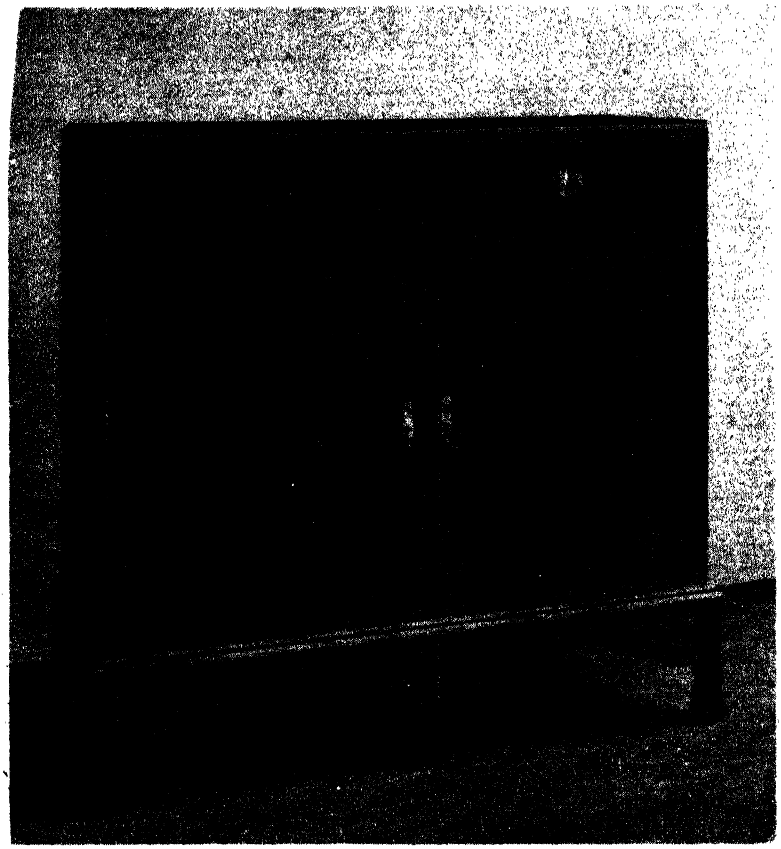
Writing Desk in Walnut



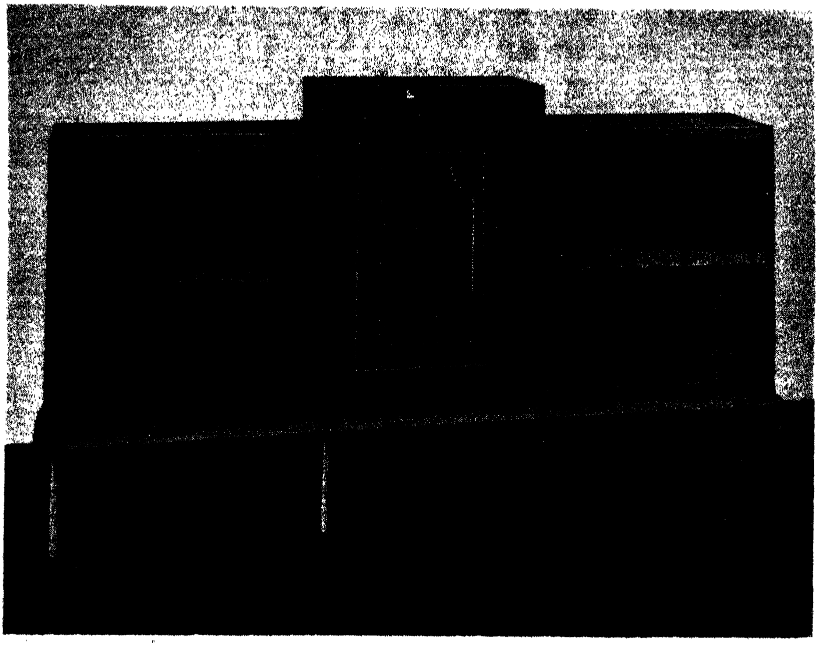
SIDEBOARD IN WALNUT
Veneered in contrasting tones with straight grain.



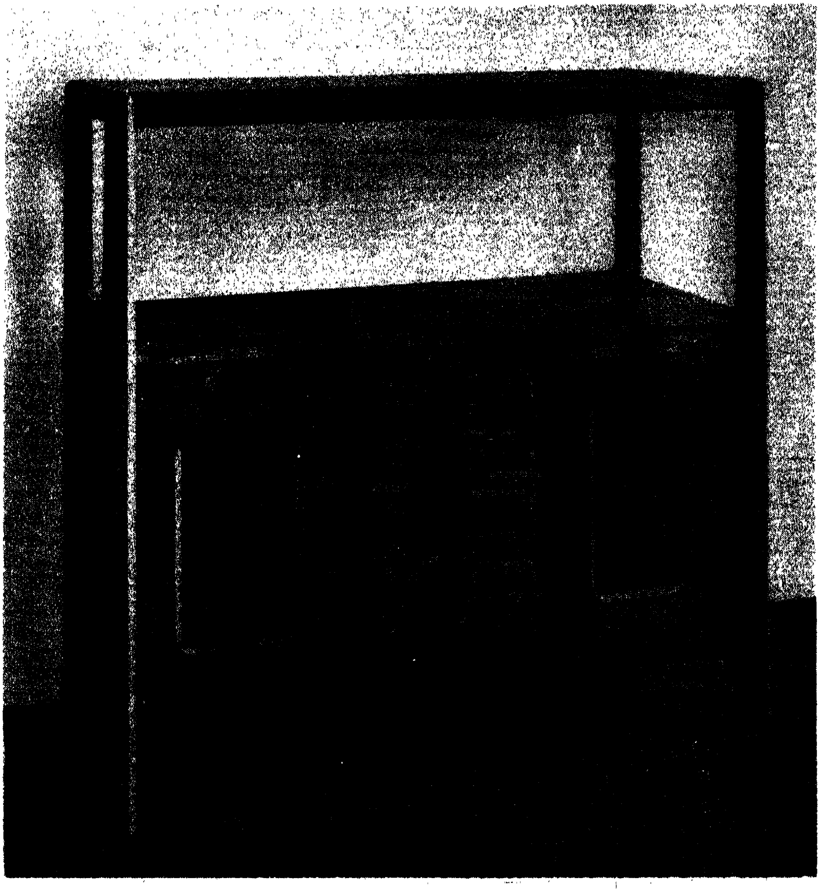
Dresser in Oak, Fitted with Four Drawers. Walnut Handles



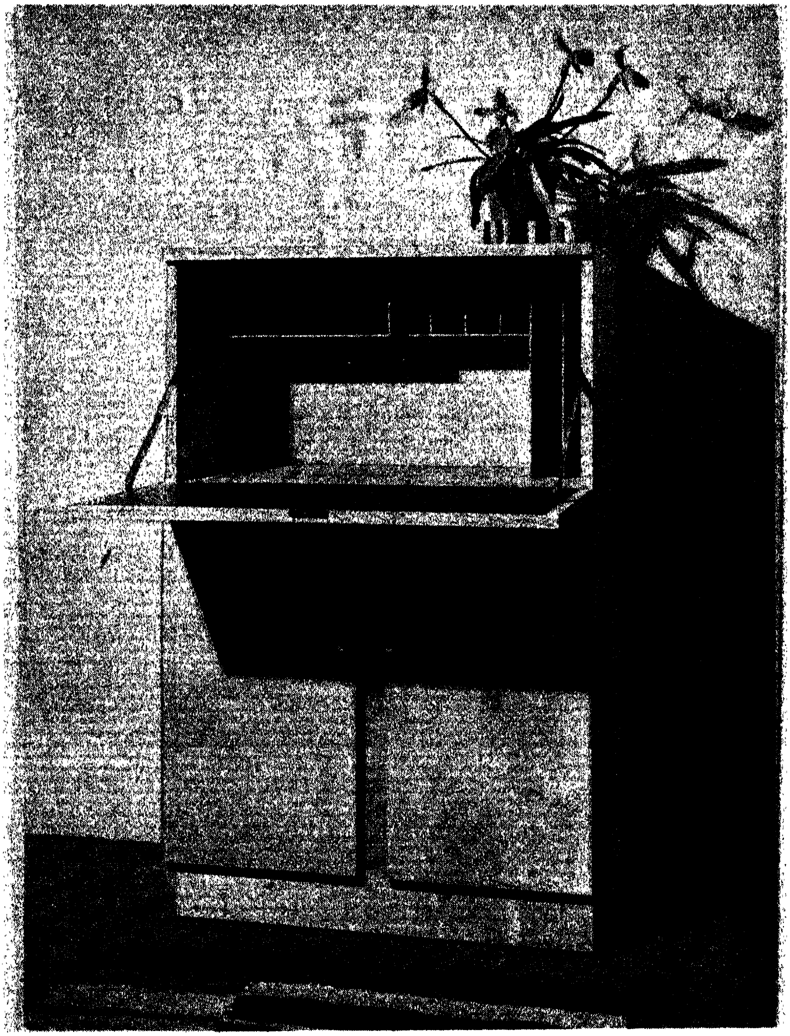
A Sideboard in Mahogany with Carved Ebony Inlay, Fitted with Two Cupboards and Two Drawers. Brass Handles and Lock Plates



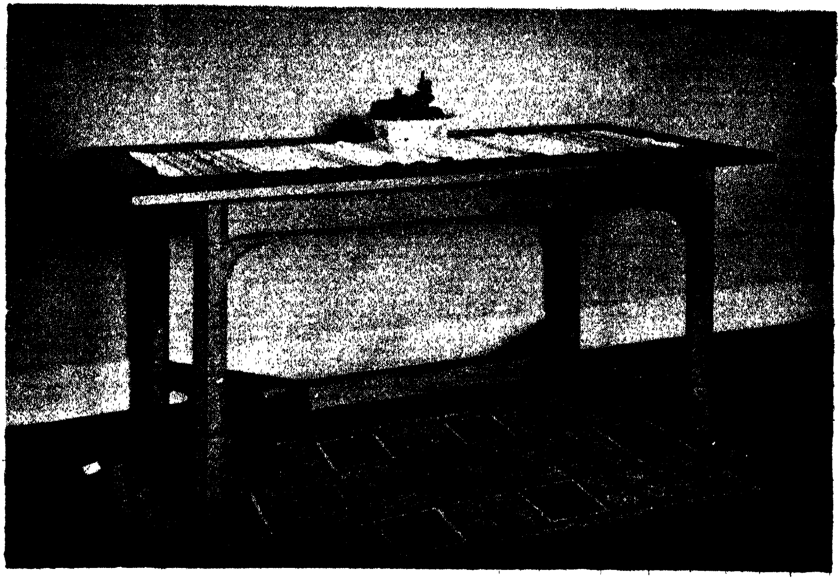
Bookcase in English Oak with Inlays of Walnut and Boxwood



Small Sideboard in Elm



FALL-FRONT BUREAU IN CHERRY WOOD, WITH CUPBOARDS UNDER

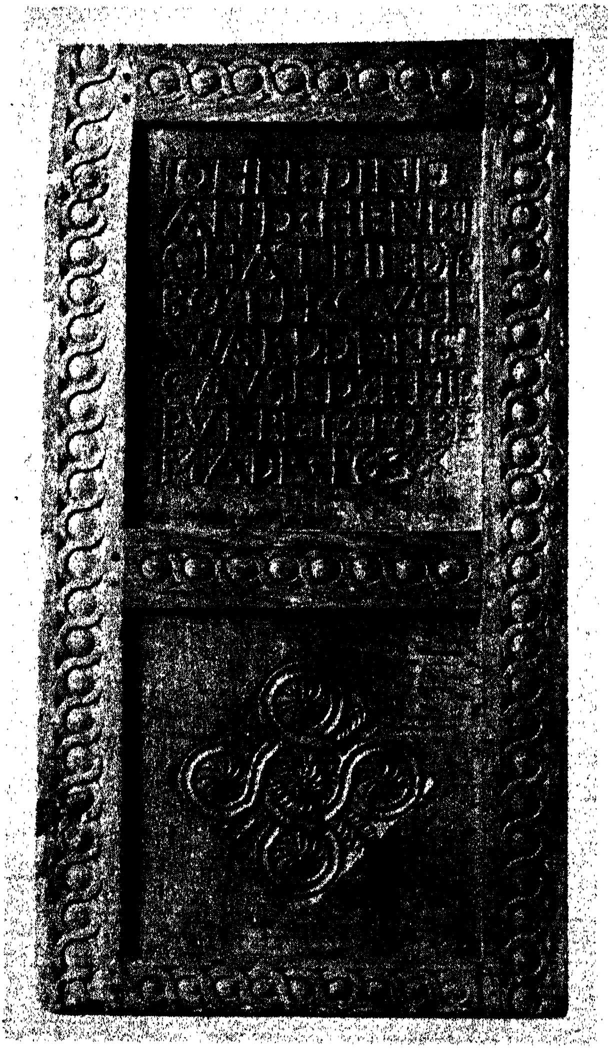


DINING TABLE IN OAK

EXAMPLES OF WORK OF VARIOUS PERIODS

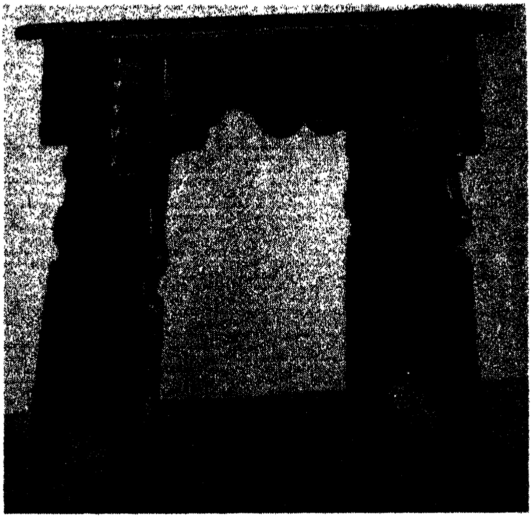
*By courtesy of the authorities of the Victoria and Albert Museum,
South Kensington, London, S.W. 7.*

Crown Copyright Reserved

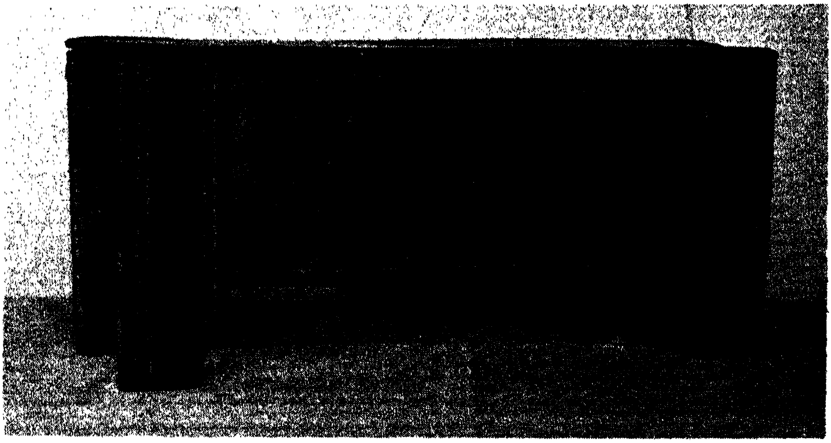


No. 1. Door of a Pulpit. Seventeenth Century

This beautiful example shows two panels in a framework carved with guilloche pattern. The lettering, formed by sinking the background, is perfectly spaced and forms an ornamental feature agreeing with the "weight" of the guilloche pattern surrounding it. This applies also to the interlacing guilloche on the lower panel. The palin background areas act as mounts, adding value to the ornament

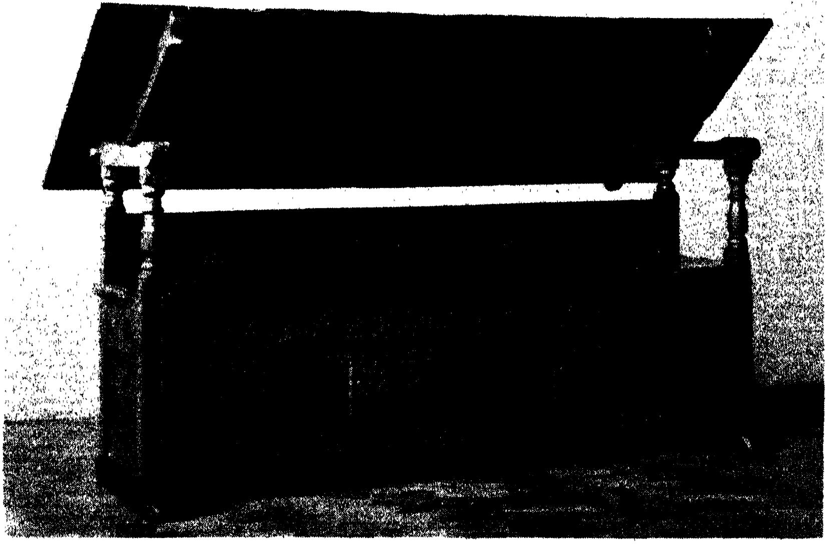


No. 2. Stool. Late Fifteenth or Early Sixteenth Century
A simple design showing the use of edge shaping. The decorative value greatly exceeds that which would be obtainable by the covering of most of the surfaces with intricate carving



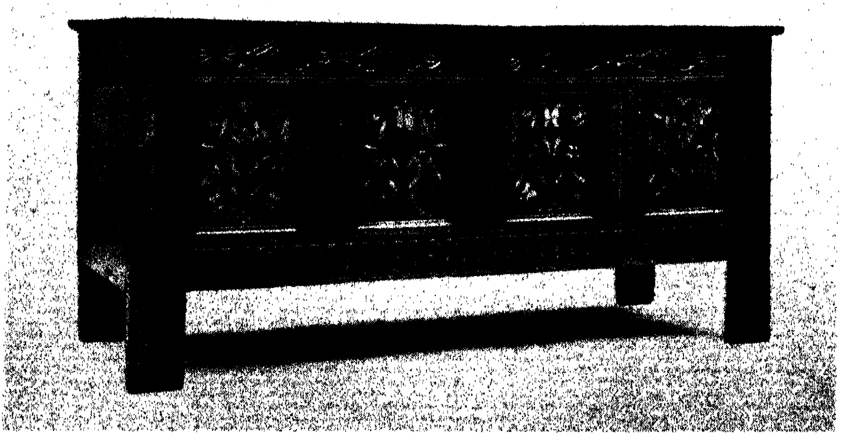
No. 3. Chest. Thirteenth Century

An example of strength and solidity with the minimum of ornamentation. The grooved lines and simple shaping of the stiles are all that is needed



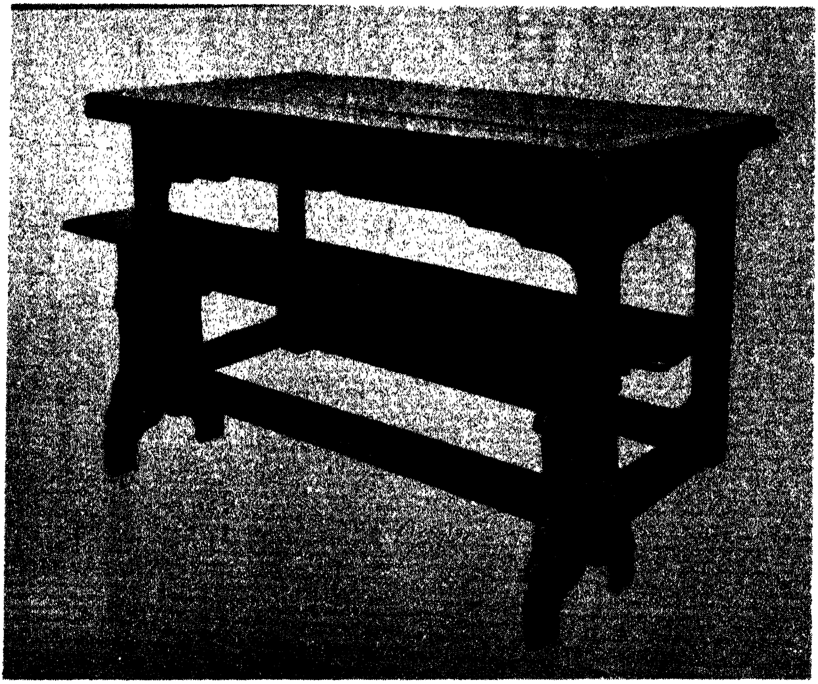
No. 4. Table-settle. Middle of Seventeenth Century

The beauty of this piece is increased by the plainness of the panels, which enhances the value of the ornamentation on the seat framing. This carving of semicircles filled with palmettes makes a continuous pattern of great charm which, being carried along the rails, does not detract from the constructional lines, but accentuates them. The ornament is thus in harmony with the general design

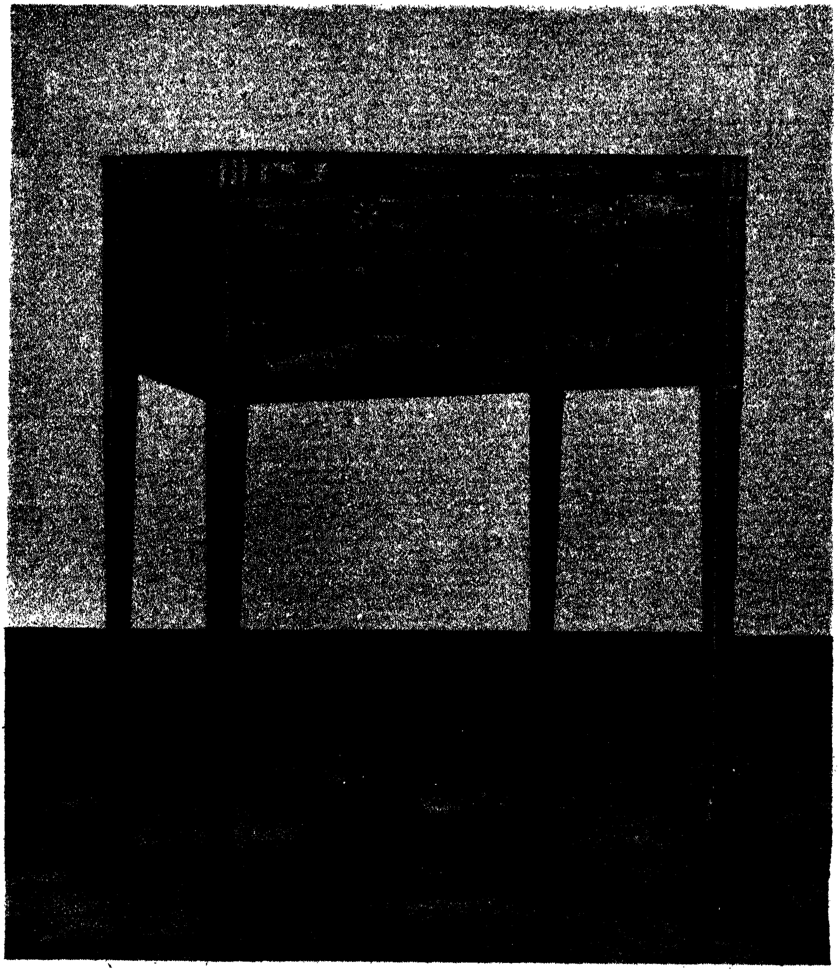


NO. 5. CHEST. INLAID WITH HOLLY AND BOG-OAK. EARLY SEVENTEENTH CENTURY

The general lines and proportions of this piece are very fine, but it is a matter of opinion as to whether or not the design is improved by the use of inlay on the panels. Normally, it is unwise to use two quite different styles of ornament on one job, and the inlaid panels differ entirely from the craved lozenges and rosettes of the top rail. Note the effectiveness of the moulding lines



NO. 6. TABLE AND FORM. EARLY SIXTEENTH CENTURY
Showing the extent to which the design of objects of strictly utilitarian value may be enriched by simple means such as edge shaping, and the chamfer. The ogee shaping of the table framing rails gives a particularly fine appearance to the lines of the whole piece



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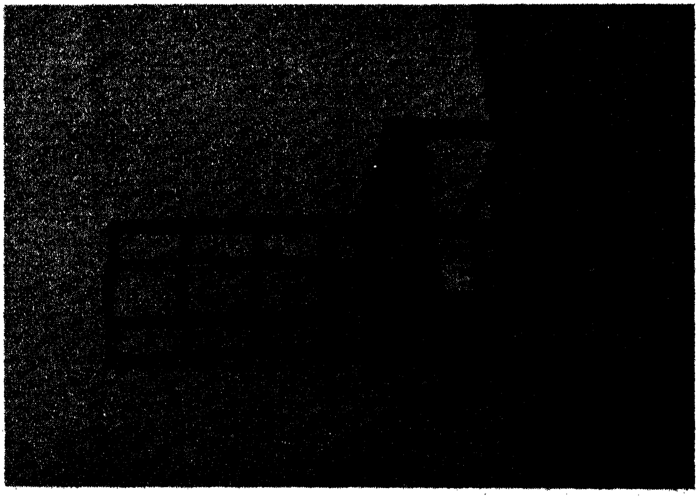

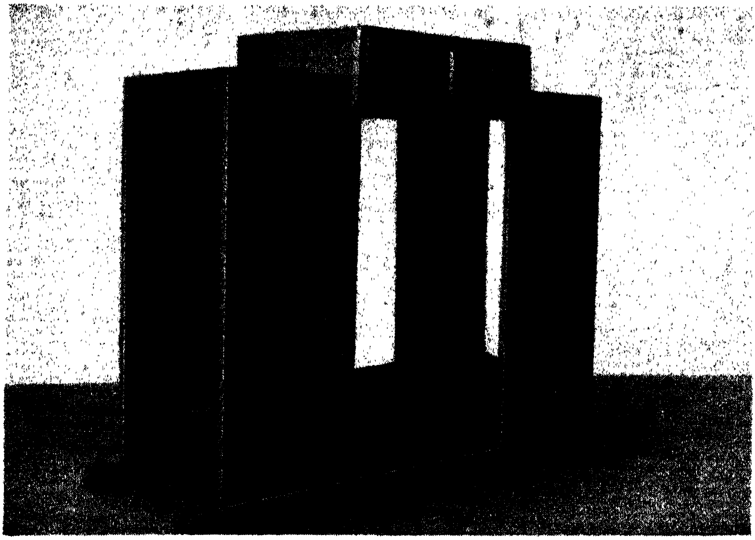

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